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20 May 1985

# USSR Report

INTERNATIONAL ECONOMIC RELATIONS



FOREIGN BROADCAST INFORMATION SERVICE

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20 May 1985

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AFRICA

TRADE PROTOCOL WITH MOROCCO SIGNED

Moscow FOREIGN TRADE in English No 3, Mar 85 pp 23-24

[Article by Alexander Buekly, section head, Department for Trade with Countries of Africa, USSR Ministry of Foreign Trade: "USSR-Morocco: New Trade Documents Signed"]

[Text] Morocco is a leading trading partner of the USSR on the African continent. For her, as for other developing countries, trade and economic relations with the Soviet Union are an important factor helping liquidate the backwardness inherited from the colonial period and achieve economic and social progress.

Since the establishment of trade relations in 1956 Soviet-Moroccan cooperation in these areas of endeavour has been successfully progressing.

The signing of the first Soviet-Moroccan trade agreement on April 19, 1958, laid the long-term legal foundation for trade relations between the two countries and was their starting point.

Commercial ties are of overriding importance in the whole complex of the two countries' friendly relations. The fact that Soviet and Moroccan economies can be mutually supplemented enables the advantages of the international division of labour to be used effectively in the interests of each country's economic development.

Today, glancing through the past

history of Soviet-Moroccan trade relations, one can clearly see that trade cooperation between the two countries is based not on the prevailing market situation but on both countries' objective long-term requirements and their interest in expanding mutually advantageous trade.

In 1960 USSR-Morocco trade was less than nine million rubles, and the average annual turnover in the past five-year period (1979-1984) amounted to 195 million rubles.

Under the yearly trade protocols Morocco bought Soviet machines and equipment, oil and oil products, timber and other goods, badly needed for the country's economy.

The Soviet Union, in its turn, increased its purchases of Moroccan traditional exports: citrus fruit, cork raw materials, canned fish, cotton, etc.

The firm legal foundation assures progressing trade cooperation and stable business contacts between Soviet and Moroccan organizations. The July 3, 1979, Long-term Trade Agreement now in force has created

excellent prerequisites for the stable and on-going development of mutual trade, all with account of each country's economic requirements.

This agreement, as well as the previous one, provides for the most-favoured-nation treatment in trade. By common consent the sides have been effecting settlements in freely convertible currency since January 1, 1982.

At present the Soviet Union has a considerable share in the following products which Morocco purchases: oil, ammonia, potassium chloride, carbamide, sawn timber, some types of machines and equipment.

Morocco reciprocates by continuing its deliveries of fruit, cork raw materials and articles thereof, triple superphosphate to the Soviet Union.

While marking the achievements reached in the past years in the development of trade and economic ties between the two countries, it should be pointed out that both states possess considerable potentials for the further expansion of mutually advantageous trade. Realization of these possibilities is connected, above all, with wider exports to Morocco of Soviet machinery, equipment and instruments, which have earned a good reputation and are in high demand on the world market. Soviet foreign trade organizations are very active in spreading the achievements of Soviet machine building among Moroccan business circles. In the last 18-24 months alone a series of exhibitions were arranged in Morocco that demonstrated Soviet power-generating, welding, printing, medical, textile, agricultural equipment and tractors. It should be stressed that the currency received from the sale of machines and equipment to Morocco supplies the means for increasing

Soviet purchases of Morocco's traditional exports.

To more thoroughly familiarize Moroccan business quarters with the Soviet Union's export potential an Exhibition of Business Information is planned to be held in 1985 in Rabat. Fifteen all-Union associations will present information about products suitable for the Moroccan market.

Of great practical importance for trade and economic cooperation is the activity of the Soviet-Moroccan Permanent Intergovernmental Commission on Economic, Scientific and Technical Cooperation, set up in February 1970. Since then the Commission has held seven meetings to discuss and advise on the state and prospects of Soviet-Moroccan trade besides other questions.

At the Commission's last meeting, arranged in Rabat, May 1984, the parties agreed to more fully use both countries' economic potentialities to expand the mutually beneficial trade exchanges on a long-term and balanced basis.

A most important trend in trade between the two countries is the exchange of Soviet raw materials, chemicals and other goods for Moroccan products obtained from the chemical processing of phosphates and phosphorites. Morocco is first in the world both in the geological and prospected resources of phosphate raw materials. It is third in the world in phosphate extraction, and the first in its export. Morocco also possesses considerable capacities for phosphate production and processing.

Wide prospects of Soviet-Moroccan trade in the said group of commodities were outlined in the signed in Moscow on March 10, 1978, long-term intergovernmental agreement on cooperation in the

field of phosphates and a protocol on the exchange of goods for a 30-year period. The protocol provides for the exchange, starting from 1978, of Soviet chemical, raw material and other commodities for Moroccan phosphate chemically processed products, settlements being effected in freely convertible currency. Between 1978 and 1984 the total volume of these shipments amounted to about 200 million rubles.

For the further development of Soviet-Moroccan trade, intergovernmental protocols on trade and exchange of several goods for the 1985-1990 period were signed in Rabat on October 2, 1984. This was a new progressive step strengthening and expanding trade cooperation between the two countries.

The Intergovernmental Protocol on Exchange of Several Goods lays foundations for a further growth of trade from the cooperation in phosphates. It envisages the Soviet Union's substantially increased purchases from Morocco of phosphorus-containing products—phosphate fertilizers, super-phosphoric acid, raw phosphates. In exchange the Soviet Union will deliver ammonia, nitrogen and potash fertilizers, oil and a number of other commodities. This is not the first year exchanges in these products have been accomplished by our countries under the above-mentioned long-

term agreement on cooperation in phosphates. A considerable increase in the planned volumes of mutual shipments is an outstanding feature of the 1985-1990 Protocol.

The Intergovernmental Trade Protocol for the same period envisages expanded trade in other goods.

The USSR will buy from Morocco greater quantities of citrus fruit, wine, cork articles, fabrics, garments and knitwear, non-ferrous metal concentrates and metals, some other goods. Under the Protocol the Soviet Union will ship oil, sawn timber, glass, chemicals, machines and equipment, medicines, etc., to Morocco. Possibilities are provided for the exchange of other goods, on whose deliveries Soviet foreign trade organizations and Moroccan organizations and firms will reach agreement.

Implementation of the signed Protocols will approximately double Soviet-Moroccan trade by 1990.

Morocco's Prime Minister Mohammed Karim Lamrani rated highly the documents signed and expressed the hope that they would give a new impetus to trade and economic relations between the two countries.

The two countries' mutual aspiration to expand trade has favourable prospects and will strengthen friendly relations between the USSR and Morocco still further.

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English translation, "Foreign Trade", 1985

CSO: 1812/205

AFRICA

IZVESTIYA ARTICLE ON AID TO ETHIOPIA

Moscow IZVESTIYA in Russian 21 Nov 84 p 5

[Text] The 21 November 1984 issue of IZVESTIYA carries an article by staff correspondent Z. Kadymbekov entitled "Letter From Addis-Ababa. And the Desert Will Come to Life," discussing Soviet aid to Ethiopian hydroelectric and drought control projects. The text of the article is published in the 12 February 1985 USSR REPORT: POLITICAL AND SOCIOLOGICAL AFFAIRS, JPRS-UPS-85-011, on pages 52-54.

CSO: 1807/126

CEMA/EASTERN EUROPE

STROUGAL'S HAVANA CEMA CONFERENCE SPEECH

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian  
No 1, 1985 (signed to press 23 Jan 85) pp 34-36

[Unattributed report on speech delivered by L. Strougal, head of the delegation of the Czechoslovak Socialist Republic to the 39th CEMA session]

[Text] First of all permit me to offer my sincere greetings to the Republic of Cuba--the organizer of this present CEMA session--and the Cuban people. Please accept from us, the delegation from Czechoslovakia, our expressions of admiration, respect and solidarity, addressed to your communist party, government and people, fighting for a peaceful course of development and the strengthening of socialism.

This is the first CEMA meeting that has taken place outside of Europe, here in the capital of the Island of Freedom. Cuba, which in the past was the symbol of heroic struggle against oppression, coercion and injustice and for national and social liberation, has today become an example of victorious proletarian revolution on the New World. The contribution made by the Republic of Cuba and the Cuban people to struggle for a better world has already been inscribed in letters of gold in the chronicles of our epoch.

And thus it has become possible for us here in this westernmost outpost of socialism to resolve the important questions stemming from the summit economic conference, whose implementation will lead to the strengthening of the unity and might of the CEMA countries and thus oppose the imperialist threat hanging over our entire community and over the cause of socialism and progress throughout the world.

For never since the end of World War II has the situation been so complex and serious. Never before have so many weapons of mass destruction been amassed on land, at sea and in outer space [v kosmicheskom prostranstve]. Never in the past have we been subjected to such a blatant militarist course, military pressure and a policy of state terrorism, all aimed at upsetting the military balance and at transforming the world according to the plans of the military-industrial complex in the United States and the NATO member countries.

Naturally, we are deeply concerned about the attempts to liquidate the policy of detente, which together with the principle of peaceful coexistence between countries with different social systems is for our civilization the sensible

way to survive. In fact, as CPSU Central Committee general secretary and chairman of the USSR Supreme Soviet Presidium, Konstantin Ustinovich Chernenko, has said, we have no alternative except that of strengthening peace, the relaxation of international tension and businesslike cooperation between all sovereign countries in the world.

All the proposals contained in last year's Political Declaration adopted by the Warsaw Pact member states and the declaration "Maintaining Peace and International Economic Cooperation," adopted by the CEMA member countries, are permeated with the spirit of mutual respect and the maintenance of equal security for all and military balance. Our aim is to move from confrontation to negotiation, from the arms buildup to disarmament, from a policy of pressure to one of cooperation. Herein lies the essence of all the initiatives put forward by the socialist countries, in particular the USSR. This is our program.

Let no one, however, think that abuses can be hidden behind words of good will. We remain vigilant. In no case will we permit our position to become weak. This applies literally to the entire community, including the Czechoslovak Socialist Republic. I am empowered to state at this high-level meeting the firm resolve of our party, government and people that no one will be permitted to catch us by surprise or threaten our social system, our independence or our freedom.

Naturally, in our joint struggle CEMA activities also occupy an important place, for only growth in our overall economic might can be a basis for maintaining and insuring peace in the future also. From this viewpoint, we highly assess the decisions of the Moscow economic summit conference.

The Czechoslovak Communist Party Central Committee Presidium and the Czechoslovak government assess highly the results of this meeting and they have made it incumbent upon all party and state organs and organizations at all levels to take specific steps and undertake specific tasks for the purpose of implementing those decisions.

At the Moscow economic conference Czechoslovak Communist Party Central Committee general secretary and president of the Czechoslovak Socialist Republic comrade G. Husak set forth in detail the conditions and results of our economic development during the current five-year plan. I will therefore deal only with the main outlines and key factors of our economic development.

The positive factors include first and foremost the restoration of economic growth during the course of 1983. This year it is envisaged that the gross national product will rise 3.2 percent. The level of task fulfillment that we have reached makes it possible to suggest that we will succeed in fulfilling the main tasks of the 7th Five-Year Plan, and overfulfill them on some directions.

We consider it most important that we are observing a trend toward intensification and improved management, and that measures connected with rationalization and achieving overall savings are becoming more effective.

At the same time, however, we must acknowledge that we are at the very start of the transition to primarily intensive development and that many bottlenecks

and individual shortcomings still exist in our economy. They include primarily the fact that scientific and technical development and activity in the field of innovation do not fully meet requirements. The utilization of output also does not fully stand in line with the plan. To this we must also add problems in the field of capital construction and exports.

At this time we are seriously engaged with these and other questions in connection with preparations for the 1985 plan and the 1986-1990 five-year plan and the basic directions in Czechoslovakia's economic and social development through 1995, so as to create the necessary prerequisites for further qualitative improvement and raising the population's living standard.

We are working in such a way as to make the measures envisaged for the 8th Five-Year Plan promote more effectively the realization of development plans, and to provide more marked incentive for technical development and facilitate to a greater extent the optimization of the production structure and inclusion in the international socialist division of labor. The entire management system, and the plan in particular, should act in the direction of creating and maintaining economic balance.

It is very important that the requirements set in this field should be stringent. In particular we should approach pricing more strictly, limit redistribution and enhance the significance of cost-accounting factors.

We are coordinating our plans with the CEMA member countries, in particular the Soviet Union. I would like to emphasize that in 1983 the proportion of CEMA member countries in our foreign trade turnover was 72 percent. During the first half of the current year our trade with these countries has increased 17 percent compared with the corresponding period last year.

We are also interested in the positive development of our relations with the developing countries. Despite the high dynamics of growth in our trade with these countries, this year we are looking for new ways and opportunities to stabilize and expand cooperation. This applies in particular to our relations with Laos, Afghanistan, Angola, the People's Democratic Republic of Yemen, Cambodia, Mozambique, Nicaragua and Socialist Ethiopia.

Representatives from Mexico, a country with which we have been cooperating on a multi-lateral basis for 10 years, are present at this 39th CEMA session, the first to take place in Latin America. We also highly assess the presence here of representatives from the Economic Commission for Latin America and the Latin American Economic System secretariat.

We agree with the assessment of CEMA activities during the period that has elapsed since the 1983 Berlin meeting, as given by comrade Rodriguez. The report fully reflects the fact that despite difficulties associated with the political and economic situation that has taken shape in the world, the economic base for cooperation has been strengthened. On the other hand, the report correctly points out the need to cooperate more consistently and flexibly, particularly in such key fields as are of decisive significance for the dynamics of cooperation and in general for the economic development of each of the fraternal countries.

Much has already been done in this direction. There has been increased efficiency in the activity of the CEMA organs, which have been concentrating their work on main tasks whose resolution should insure the implementation of long-term strategy agreed at the CEMA economic summit meeting.

We think that one fine example of joint efforts aimed at achieving further progress in our mutual cooperation is the practice implemented in recent times whereby at the meetings of the Executive Committee there is comprehensive discussion of the fulfillment of tasks in the most important fields of cooperation. Thus, for example, a number of measures have been approved in the field of electronics, microprocessors and robot technology, and also measures that are being considered by the Executive Committee in the field of transportation. In the future, management and control measures in the CEMA organs should be treated in the same way.

We agree that, considering the decisive role of scientific and technical progress, at one of its most recent meetings the Executive Committee also conducted a comprehensive examination of CEMA member country cooperation in this field, in particular the completion of work to draw up a comprehensive program for scientific and technical progress over the next 10-15 years. Up to now preparations for this program have not been without their problems. Cases of serious delays have been observed in the work. It can now no longer be suggested that we have the whole of 1985 left to us. We also think that it is essential for the Executive Committee to insure that the draft of this comprehensive program be supplemented with a complex of measures dealing with the consistent fulfillment of tasks, in particular with regard to coordinating the program with cooperation in the production sphere.

Comrade N.K. Baybakov has already reported on the course of plan coordination. A positive effect has been felt here from the CEMA economic summit conference decision that this is a matter not only of defining the basic tasks in the field of material production but also of new forms that enrich our practical work. What I have in mind is primarily the deepening of agreement on economic policy already during work on the coordination of five-year plans, and also the requirements concerning the more effective agreeing of capital investments. True, much has already been done in this direction during 1983-1984, but despite this, we cannot be completely satisfied. The central planning organs and the committees and commissions on bilateral economic and scientific and technical cooperation should analyze more deeply the effectiveness of their work and resolve the questions that face us. In particular there should be a requirement that already during the upcoming five-year period practical and effective steps should be taken to coordinate capital investments so as to eliminate duplication and thus the dissipation of limited forces.

The summit conference emphasized that we should pay more attention than heretofore to the long-term nature of measures in our work. We should therefore be more exacting toward the work of organs both in our countries and in CEMA engaged in the preparation of plans for the next five-year period and the basic directions of economic and social development through 1995 and 2000.

The Czechoslovak side considers one very important result to be that certain basic problems have already been clarified with the Soviet Union. The Soviet

Union has again displayed great international understanding of the needs of our community and has thus created important prerequisites for the planned and well-considered coordination of the five-year plans of the different CEMA member countries. I would like to assure you that we also are presently checking out opportunities so as to meet the requirements and wishes of the Soviet side in the sense of qualitative level that comrade N.A. Tikhonov spoke of.

During the course of plan coordination with the other European CEMA member countries specific results have already been achieved. We will have much to do in negotiations with non-European CEMA member countries, where credit assistance plays a major role in our mutual relations. During the next five-year period we also intend to continue aid for the Republic of Cuba, the Mongolian People's Republic and the Socialist Republic of Vietnam.

And even though the results achieved are in general significant, we should not lose sight of the fact that in the remaining period, that is, through the first half of 1985, we must come up with decisions for several complicated questions. In particular it is essential speed up the completion of agreements on production specialization and cooperation so that we may reflect obligations stemming from such agreements in the final protocols on coordination and the five-year plans for the upcoming period.

One important task is to insure the coordination of agreements on production specialization and cooperation with tasks in the field of scientific and technical development. We are not still completely satisfied with the experience gained so far.

The Czechoslovak side agrees the draft for long-term comprehensive measures to insure rational demand for energy, fuel and raw materials during the period through 1990 and beyond. Taking our requirements into account, we are interested in most of the measures that will be presented as a package in implementing the tasks concerning the agreeing of economic policy in key sectors of our countries' economies.

The proposed package represents a very stepped-up investment program in science and technology and production. According to initial assessments and calculations its implementation provides for expenditures on the order of 45-55 billion transfer rubles, which is five times greater than corresponding expenditures during the previous five-year period. All this will demand of us an extremely careful definition of priorities in measures and even greater agreement on the prerequisites for their implementation.

Here, of course, time is of the essence. We should prepare everything in the best way possible and do everything so as to complete our examination of questions before the end of the first half of 1985, and reflect the results comprehensively and in good time in the drafts for the 1986-1990 five-year plans.

Our delegation suggests that in order to meet the requirements of the CEMA member countries, use be made of the magnesite reserves in Czechoslovakia on a compensation basis. We shall be making concrete offers before the end of the year.

It follows from the reports that have been presented that both this year and during the first half of 1985 we expect much work, whose results will largely determine the course of fulfillment of development plans in our countries and implementation of the decisions of the summit economic conference.

Our country's party and state leadership will take all steps necessary for consistent and complete fulfillment of all the Czechoslovak side's duties and obligations.

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## CEMA/EASTERN EUROPE

## CUBA-USSR SEABORNE TRADE PRAISED

PM182033 Moscow PRAVDA in Russian 11 Apr 85 p 4

[Article by Guillermo Garcia Frias, member of the Communist Party of Cuba Central Committee Politburo, vice president of the Council of State and Council of Ministers, and transportation minister of Cuba: "A Bridge Across the Atlantic"]

[Excerpt] Large-scale trade between Cuba and the Soviet Union began developing after the Cuban revolution's victory. Whereas, at the beginning, the volume of reciprocal trade amounted to around R10 million, by the late sixties it had increased many times over, and in the late seventies, after Cuba joined CEMA, it grew still further, and now exceeds R7 billion. Cargo worth a total sum of more than R57 billion has been shipped in both directions along the Transatlantic route joining the USSR and Cuba in these 26 years.

The scale of Seaborne transportation has been steadily increasing at the same rate, and it is the eighties which have seen its most dynamic growth. Whereas the volume of reciprocal deliveries was under 15 million metric tons in the middle of the last decade, it was 20 million metric tons in 1984. How can one forget here the first 600,000 metric tons of Cuban sugar delivered to the Soviet Union by the "Vatslav Vorovski" 60 years ago.

The present stage of Cuban-Soviet cooperation is characterized by a further increase in seaborne transportation in accordance with the long-term strategy elaborated at the CEMA economic summit in Moscow.

This "bridge across the Atlantic" has a decisive influence on the high and steady rate of development of its national economy achieved by Cuba. The Transatlantic artery helps to further increase agricultural and industrial production on the Island of Freedom, to implement the plan for accelerated development of Cuba's science and technology in the period through 1990, and to successfully carry out a number of very important integration programs within the framework of cooperation among socialist communist states.

Thanks to the joint work of Soviet and Cuban organizations seaborne transportation between the USSR and Cuba is constantly deepening. Modern diesel vessels are being commissioned, handling of cargoes in Cuban ports is improving, measures to introduce efficient forms of navigation are being

taken, and the delivery of raw materials, general and refrigerated cargoes, coal, grain, flour, and industrial products from the ports of the Baltic, Black Sea, and Far East is becoming more regular. Progressive techniques for transportation in roll-on-roll-off ships and container ships delivering equipment, rolling stock, containers, and other standardized cargoes have been assimilated.

In short, ships, including of late those flying the flag of the Island of Freedom, are making regular Transatlantic crossings. There is close cooperation between ships' crews and workers in the port services and favorable conditions have been created for the exchange of advanced experience. The use of a modern fleet and improved transportation techniques in both directions made it possible for us to handle 70,000 containers last year. Goods carried in Soviet containers amounts to more than half of all our container-carried traffic.

Soviet ships put in to Cuban ports 1,200-1,300 times a year. This means that there are more than 2,000 Soviet sailors on the Island of Freedom on any day. And all of them, together with dockers in both countries, are taking part in internationalist competition.

Friendship, cooperation, and common ideals and principles have determined the main aims of the undertaking: Namely, to increase labor productivity in the berths and on board ship, to reduce idle time, and to service ships within tighter schedules.

The initiator of this marvellous competition, begun some years ago, was the crew of the Baltic Steamship Company's ship "Vladimir Ilich." Labor competition on the Transatlantic run became truly massive in scale after its collective's appeal was launched. New forms are constantly enriching it, and its quality is improving.

Soviet dock workers are competing to ensure that ships are loaded as quickly and efficiently as possible and ships' crew engaged in a campaign to ensure that goods are delivered as quickly as possible and that their ships are maintained in model order and in maximum readiness for discharging in Cuba. Works at the Cuban berths are competing to increase labor productivity during the handling of Soviet ships, thereby reducing their turnaround time.

The constantly increasing scale of bilateral cooperation and the dynamic growth in reciprocal trade require that dockers and sailors ensure that Soviet-Cuban goods are reliably transported. Mindful of this, we realize the full principled nature of the fact that the capacities of the republic's ports are still being updated and expanded too slowly. Capital construction plans in this very important sphere of Cuba's national economy are not being implemented quickly enough.

As a result, a considerable gap has formed in recent years between the increasing flow of goods and our ports' handling capacity. This mismatch showed itself particularly forcefully last year when the roads off Havana,

Santiago de Cuba, Cienfuegos, Mariel, and other Cuban ports were blocked with dry cargoes. Imported goods of vital importance for our industry and agriculture were unable to reach their destination for a long time. The country's economy suffered appreciable losses, including currency losses in connection with fines paid to shipowners for their ships' forced inactivity.

Analyzing the situation that had arisen with all the frankness inherent in workers, Cuban dockers declared an "emergency work stint," which was mounted with double the usual work force. However, it is clear that rectifying this situation is merely one step along the path toward a radical improvement of the management of our ports. To ensure that similar unpleasant situations do not recur we are in the process of outlining measures to speed up the commissioning of port capacities and ensure their complete assimilation, to furnish existing facilities with highly productive equipment and spare parts, to improve contacts between transport workers and the consumers of imported goods, to ensure flexible collaboration among different kinds of transport, and to cut back on inefficient shipments. All this is inextricably bound up with tightening order and discipline in labor collectives, enhancing cadres' responsibility, and improving the whole activity of party, young Communist Union and trade union organizations.

The CEMA economic summit pointed out the need to improve the conditions for the delivery of goods to our country by sea. By this is meant the undertaking of joint measures ensuring the comprehensive development of the maritime fleet and port management, as well as close coordination of these development plans and questions connected with capital investments in this area.

The decision of the Moscow conference and the 39th meeting of the CEMA session in Havana open new prospects for developing seaborne transport between the USSR and Cuba. A long-term program for developing economic, scientific, and technical cooperation between the USSR and Cuba for the period through the year 2000 was signed recently. The Island of Freedom and the other CEMA countries have coordinated questions of reciprocal supplies of goods for the next 5-year plan. All this also indicates that Cuba's trade turnover with its main partners will considerably increase in the next few years. It is essential that we consistently and steadily improve seaborne transportation by making use of both traditional and automated techniques and container methods of transporting goods. It is only on this basis that we can substantially increase the handling capacity of the "bridge across the Atlantic."

To carry out a task of this scale it is essential that the ocean expanses should always be peaceful and calm. The policy pursued by imperialism runs counter to this and hampers international cooperation. On the false pretext of "protection" against notorious "Soviet-Cuban maritime expansion in the Caribbean" U.S. ruling circles are tightening the economic blockade of the Island of Freedom, are indulging in saber-rattling around our shores, and organize provocative maneuvers in the Gulf of Mexico, the Caribbean, and on the high seas. However, historical experience shows that this adventurist course of piracy is doomed to fail.

The coordinated foreign policy course of the socialist community states and above all the principled course of its indestructible bulwark--the USSR--guarantee future victories over the forces of aggression and oppression.

Closely united, like all the republic's working people, around the PCC, the Island of Freedom's maritime transportation workers are fully determined to achieve new successes on the Transatlantic route in fraternal cooperation with their Soviet friends.

CSO: 1825/67

CEMA/EASTERN EUROPE

COOPERATION PROGRAM WITH CUBA THROUGH YEAR 2000 OUTLINED

Moscow FOREIGN TRADE in English No 3, Mar 85 pp 51-55

[Text]

The Government of the Union of Soviet Socialist Republics and the Government of the Republic of Cuba,

basing themselves on unity and solidarity between the Communist Parties of the Soviet Union and Cuba, between the Soviet and Cuban peoples and on firm determination to further develop Soviet-Cuban friendship in accordance with the principles of Marxism-Leninism and socialist internationalism,

being guided by decisions of Congresses of the Communist Party of the Soviet Union and the Communist Party of Cuba on the steadfast development of the national economies of their countries and enhancement, on this basis, of the working people's well-being,

confirming their endeavour to further expand and develop all-round economic, scientific and technical cooperation between the USSR and the Republic of Cuba through coordination of economic policies and main directions of long-term cooperation,

with the purpose of making an effective contribution to the further development and deepening of socialist economic integration of the CMEA member-countries on the basis of the Comprehensive Programme for the Further Extension and Improvement of Cooperation and the Development of Socialist Economic Integration of the CMEA Member-Countries, as well as the implementation of decisions of the Summit Economic Conference of the CMEA member-countries in Moscow,

striving to expedite the process of gradually bringing the level of economic development of the Republic of Cuba in line with the levels of European CMEA member-countries,

attaching great importance to the more active participation of the Republic of Cuba in the international socialist division of labour on a long-term basis,

realizing that the multifaceted cooperation of both countries serves the cause of socialist and communist con-

struction, promotes the strengthening of peace and relaxation of international tension,

have adopted the present Programme of Cooperation for the period till 2000.

## **I. BASIC RESULTS OF COOPERATION**

Since the victory of the revolution and with the all-round support of the Soviet Union and other countries of the socialist community, the Republic of Cuba has successfully carried out deep-going revolutionary transformations, created realistic prerequisites for the construction of socialism's material-and-technical base and overcome the consequences of the economic blockade imposed by US imperialism.

The Republic of Cuba was the first among the countries in the western hemisphere to travel the road of socialist development. The transition to socialist production relations, rapid growth of the public sector, improvement of national economy management and planning system have become important objective prerequisites for the development of productive forces. The Cuban revolution graphically and convincingly showed that in the world where the balance of power has changed in favour of socialism the people of a small semi-colonial country can attain full national liberation, carry out radical social transformations, successfully overcome economic backwardness and assure considerable progress in all spheres of social life.

Cuba was the first Latin American country to eliminate illiteracy. Universal education is now a normal process. The Cuban people have broad access to knowledge, to the achievements of science and culture. Modern medicine protects the working people's health.

Successes of the Republic of Cuba in all spheres of life are inseparably tied in with the internationalist fraternal assistance given by the Soviet Union.

Economic, scientific and technical cooperation between the USSR and the Republic of Cuba has continuously developed and reached a high level. There has been an increase of volumes and expansion of the scale of technical assistance rendered by the Soviet Union to the Republic of Cuba in the construction and reconstruction of national enterprises, creation of the infrastructure, material-and-technical base for training national personnel in almost all branches of the economy, in the introduction of new technological processes in production. The planning foundation of cooperation has been consolidated.

Industrial enterprises and other projects in the Republic of Cuba, built and reconstructed with the USSR's economic and

technical assistance, promoted the process of industrialization, growth of the economic potential of the country and its export possibilities.

With the USSR's economic and technical assistance a number of industries have developed in Cuba which were almost non-existent before the victorious revolution. They include steel production, agricultural machine-building, manufacture of equipment for the sugar industry, electronics, fertilizer manufacture, commercial fishing, geological prospecting of Cuba's territory.

Through both countries' joint efforts a stable base has been created for the sugar industry—the major export industry of the Republic of Cuba. A high level of mechanization of sugar cane harvesting has been achieved. Cuban-made harvester combines are more and more ousting hard manual labour. Broad modernization and reconstruction of production capacities, as well as the updating of the sugar industry transport system are underway.

On the basis of cooperation with the USSR radical changes have taken place in power generation in Cuba. Large thermal power stations in Mariel and Santiago de Cuba, electric power transmission lines and other projects unified in a single nation-wide electric power grid have created a reliable power foundation for further progress of the Republic of Cuba's economy. Cuba is one of the first countries in Latin America to have nuclear power generation introduced.

Cuba's mining industry was further developed and in the first place manufacture of nickel-containing products. Geological prospecting is being conducted throughout the country and has increased considerably the explored reserves of oil and other mineral resources and the volumes of their production.

An important contribution to the supply of industrial consumer goods to the population of the Republic of Cuba has been the setting up of large production capacities in the textile industry, in particular, of a textile factory in Santiago de Cuba.

Of great importance for the agriculture of Cuba has been the Soviet Union's assistance in developing land improvement schemes, animal breeding, poultry farming, organization of maintenance and repair of agricultural machinery, as well as work in chemicalization, plant protection, selection and genetics.

Major efforts of both countries in bilateral cooperation have been directed towards the solution of key problems for developing the Cuban economy, improving its structure, raising the level of public production for satisfying the growing needs of the Cuban people.

In the coming years with the USSR's assistance there will

be commissioned in Cuba considerable capacities in such industries as power, ferrous and non-ferrous metallurgy, oil refining, machine-building, building materials and construction, and also in transport and communications, including electrical power stations in the area of Havana, first stages of the nuclear power station and a new oil refinery in Cienfuegos, a nickel plant in Punta Gorda, engine and truck repair shops in Santiago de Cuba and Santa Clara, expansion of the José Martí iron-and-steel works, reconstruction of a trunk railway line.

High rates have been attained in the development of trade turnover between the USSR and the Republic of Cuba, it has increased nearly fivefold in the last ten years. Deliveries of Soviet goods are of primary importance for the economic development of the Republic of Cuba. The Soviet Union fully satisfies the requirements of Cuba for oil and petroleum products, an overwhelming part of its import requirement in grain, metals, fertilizers, timber and other raw materials, agricultural and road-construction machinery, transportation facilities and many other kinds of machinery and equipment.

In its turn the Republic of Cuba is shipping to the USSR increasing quantities of sugar, nickel-containing products, fresh and processed citrus fruits, and other goods playing an essential part in the Soviet Union's economy.

The long-term and stable deliveries from the Soviet Union of oil and petroleum products and other raw materials and guaranteed purchases from Cuba of raw sugar are creating a reliable basis for the Cuban economy's development.

The relations of fraternal friendship and mutual understanding that have developed between the two countries are very specially manifested in the all-round disinterested economic assistance rendered by the Soviet Union.

Among the various forms of assistance an important role is played by preferential prices that have been established for major Cuban export commodities and the favourable credits granted to the Republic of Cuba creating favourable conditions for financing the development of its economy.

The role of Soviet-Cuban scientific and technical cooperation is increasing. The construction of a modern material and technical base for research purposes in Cuba is underway. Through joint efforts scientific programmes are being developed which are closely related to the requirements of Cuba's economy, to the priority tasks of its economic development.

Joint teams of scientists have been set up to solve scientific and practical problems of mutual interest.

Of special importance for the Republic of Cuba is the Soviet Union's assistance in training personnel for the various national industries.

Economic, trade, scientific and technical cooperation between the USSR and the Republic of Cuba acquires an increasingly regular and comprehensive nature and is facilitated by the efforts made in coordinating both countries' five-year state economic and social development plans. The activities of the Intergovernmental Soviet-Cuban Commission on Economic, Scientific and Technical Cooperation play an important role in raising the effectiveness of the two countries' economic ties.

At present relations of cooperation between the two countries are spreading far and wide, reaching a higher qualitative stage due to the elaboration of the main guidelines for the further development of cooperation over a long-term perspective. Drawing up in consultation with Soviet specialists the General Scheme of Cuba's Economic Development till 2000 is of great importance.

The purpose of the present programme document is to strengthen and further develop the planned stable foundations of long-term cooperation.

## **II. MAJOR OBJECTIVES AND WAYS OF REALIZING COOPERATION**

Proceeding from the guidelines of social and economic development of the USSR and the Republic of Cuba, defined by the CPSU and the Communist Party of Cuba, and also the decisions of the Summit Economic Conference of the CMEA member-countries held in Moscow in 1984, the Sides consider the major objective of the long-term cooperation between the two countries to be the facilitation of the completion of construction of material and technical base of socialism in the Republic of Cuba, the further all-round enhancement of well-being, and the rational satisfaction of the Cuban people's growing material and cultural requirements.

On the existing equitable basis the Soviet Union will continue to render all-round assistance to the Republic of Cuba expediting its development and raising the effectiveness of its economy with consideration of the tasks of socialist industrialization which Cuba itself set. The Soviet Union's assistance will be directed at consistently strengthening the self-sufficiency and independence of the Cuban economy, organically integrated with the socialist community of the CMEA member-countries, in such forms as are recognized as most appropriate for each individual stage of cooperation, on the basis of principles agreed in 1984 at the Summit Economic Conference of the CMEA member-countries regarding the development of economic and trade relations with the Republic of Cuba.

To reach these objectives the Soviet Union and the Republic

of Cuba have agreed to develop Soviet-Cuban economic, scientific and technical cooperation along the following lines:

- improve the public production structure in the Republic of Cuba on the basis of the maximum use of national resources and advantages of the international socialist division of labour;

- raise the effectiveness of Cuban economy on the basis of its gradual transition to an intensive way of development, better use of fixed assets and material and labour resources available, saving of fuel and materials, development of modern technological processes and accelerated introduction of achievements stemming from scientific and technical progress;

- expedite exploitation of the natural resources of the Republic of Cuba and their fullest and most efficient use to strengthen the production potential of the country and raise the degree of internal integration of its economy, as well as increase export resources;

- accelerate the development of the fuel and energy industries (oil industry in the first place), metallurgy, certain areas in machine-building, electronics and chemistry in accordance with the tasks of socialist industrialization and raising the effectiveness of the economy;

- further develop and increase the degree of internal integration of industries within the agro-industrial complex in accordance with the tasks set in the National Food Programme to provide the country with food products mainly through its own production and increased exports;

- expand the export potential of the Republic of Cuba both through an increase in the production of traditional goods and through the development of production of new types of products, primarily in the manufacturing industries;

- promote the participation of the Republic of Cuba in the international socialist division of labour by way of specialization, cooperation and economic integration within the framework of the CMEA on the basis of mutual benefit which will contribute particularly to the strengthening of technical and economic independence from capitalist countries;

- assist the Republic of Cuba to promote the production of specific types of products, primarily in the manufacturing industries, which would ensure its more active participation in agreements on specialization and cooperation in production within the framework of CMEA on a bilateral and multilateral basis to deepen socialist economic integration and expand mutual trade exchanges;

- accomplish cooperation in modernization, reconstruction and expansion of production capacities already in operation and establishment of new ones in Cuba's economy;

encourage an increase in trade volumes to provide the national economies of both countries with particular types of raw and other materials, machinery and equipment, food products and industrial consumer goods on a long-term and stable basis;

raise the effectiveness of cooperation between the Republic of Cuba and the USSR by the fullest use of production capacities set up, concentration of resources on the construction of priority projects and improvement of the quality of mutually delivered goods;

perfect the forms and methods of cooperation, establish joint enterprises, cooperated production and construct projects on a compensation basis, including for joint export to third countries, process in the Republic of Cuba the Soviet-supplied raw and other materials to be later re-exported to the USSR;

promote the accelerated development of science and technology in the Republic of Cuba, strengthen the material and technical base of scientific research, transfer scientific and technical documentation, conduct joint research, and raise the qualifications of scientific and technical personnel;

continue assistance in training and raising the qualification of Cuban specialists at secondary specialized and higher educational establishments, in instructing leading personnel, specialists and workers at enterprises and organizations in the USSR.

### III. PRIORITY FIELDS OF COOPERATION

The Sides have recognized the expediency of concentrating efforts on cooperation in the following major fields:

#### 1. In the agro-industrial complex:

accomplish the objectives of the National Food Programme of the Republic of Cuba by consistent implementation of measures aimed at strengthening the material base of agriculture and developing its own fodder base for animal breeding, by more active land improvement activity, by development of agrotechnical services and chemicalization of agricultural production, by increasing the efficiency of land use, raising agricultural crop yields and productivity of animal farms;

further develop the sugar industry by raising the level of mechanization of sugar-cane growing and harvesting, by constructing new sugar-cane-processing factories and modernization and reconstruction of existing ones, reconstruction and modernization of transport and development of automated control systems in the sugar industry;

develop technology and expand the material base for manufacturing microbiological synthesis products, feed protein and other industrial produce from the complex processing of sugar-cane waste;

develop the material base of production and industrial processing of citrus fruits through land improvement at plantations, construction of new plants and installations to process, can and store citrus fruits and products of their processing, and also the organization of container production;

develop individual sub-branches of the food industry for fuller use of agricultural produce;

introduce intensive methods of breeding fresh water fish, expand the material base of the fishing industry;

intensify reforestation, organize the procurement and processing of wood,

expand the export capabilities of the Republic of Cuba, including exports to the USSR both through the supply of traditional goods (sugar, fresh and processed citrus fruits, beverages, tobacco) and through the organization, within the agro-industrial production complex, of new types of products—sorbite, vitamin C, activated coal, furfural, lysin, citric acid and other products.

## 2. In the fuel and energy complex:

further develop the Republic of Cuba's electric power grid mainly by constructing nuclear power stations and a thermal power station in the area of Havana, as well as modernization of existing thermal power stations, construct power transmission lines as needed for Cuba's electric power grid, increase production capacities serving the power stations;

develop geological prospecting and drilling work aimed at increasing the explored oil and gas reserves, including the off-shore areas of Cuba, set up appropriate facilities to extract oil and gas, organize barite production to perform drilling activity;

expand and modernize existing oil refineries and set up new ones with account of the agreed deliveries of oil from the USSR and the long-term possibilities for the increased refining of Cuban oil, organize production of basic oils, the further deepening of its fractioning, construct sea installations and ground depots to take up and store oil and fuel oil, build facilities to transport and store oil, petroleum products and gas;

introduce energy-saving technologies and implement measures for optimizing energy consumption, including improvement of sugar refineries' power systems, ensure greater use of non-traditional, secondary and renewable sources of energy in Cuba's fuel and power balance including the development of production in a power-and-heat supply cycle.

### 3. In ferrous and non-ferrous metallurgy:

- extend and modernize the José Martí iron-and-steel works;
- build new metallurgical capacities in the province of Holguín on the basis of Cuban metal scrap and iron-containing raw materials;

- organize the production of metalware and refractories and introduce powder metallurgy methods;

- carry out operations aimed at improving the quality of processed metal scrap, of the nickel industry's iron-containing residues and at increasing explored reserves of iron-containing ore deposits;

- further expand the existing nickel-cobalt capacities and construct new ones, diversify the nickel-cobalt product range, also for increasing exports of these products to the USSR;

- develop the polymetallic ore deposits on a compensation basis, first of all the production of lead-zinc concentrates;

- increase geological prospecting activities to cover solid minerals to add to their explored reserves in order to develop ferrous and non-ferrous metallurgy, the building materials and construction industries, the chemical industry and other economic sectors;

- continue geological surveys of Cuba's territory, draw geological maps and zone the country's geological and economic areas.

### 4. In machine building:

- develop the manufacture of equipment to meet the requirements of the Republic of Cuba's national economy taking into account specialization and cooperation with the CMEA member-countries, especially, equipment for the sugar and food industries, machinery and equipment for agriculture, animal breeding and animal feed production;

- promote cooperated production of individual types of construction and transport equipment with subsequent own production of components, units and parts with the possibility of their export;

- organize the production of certain types of non-standard equipment, tools and metalware from expansion and modernization of existing capacities;

- extend and establish ship-repair facilities;

- expand and raise the efficiency of use of the production facilities for technical maintenance and repair of the existing machinery and equipment, as well as for the manufacture of new and the restoring of worn parts.

### 5. In electronics and electrical engineering:

- develop the production of individual types of electronic equipment, including certain types of computers and control and measuring instrumentation, on the basis of specialization

and cooperation in production with account of home and export requirements;

further develop the production of electric domestic appliances on the basis of mutual interest of the Sides in cooperated production of the appropriate articles;

create the production and technical base to turn out certain sorts of raw materials and components for the electronic and electrical engineering industries for meeting internal and export requirements.

**6. In the chemical and light industries:**

extend and establish capacities for the production of mineral fertilizers using USSR-supplied ammonia and some other raw materials, expand ammonia take-up capacities;

start production of particular chemical and petrochemical products on the basis of the Sides' interest in organizing specialization and mutual exchange of appropriate kinds of chemical raw materials and manufactured products;

expand, modernize and establish capacities to produce various types of paper and cardboards from bagasse, as well as softwood pulp from species that grow in Cuba;

reconstruct existing soap factories and set up capacities to produce certain types of detergents;

develop production of garments and some other light industry articles, also for export to the USSR on a compensation basis;

develop furniture production from bagasse boards to satisfy home and export requirements.

**7. In the medical industry:**

organize commercial production of pharmaceutical raw materials on the basis of medicinal plants growing in Cuba, start the production of medicaments and veterinary preparations with account of the country's internal market and exports to the USSR;

arrange the production of certain types of medical equipment and laboratory instruments to meet Cuba's needs and possible exports to the USSR.

**8. In the building materials and construction industries:**

develop production of hydraulic seals, sanitary ware, ferro-concrete pipes, facing and other materials;

develop production base for the technical maintenance and repair of construction equipment;

modernize, extend and establish capacities to produce glass containers and sheet glass.

**9. In transport and communications:**

carry on with the reconstruction and construction of sea wharfs and ports;

develop sea carriage and container transport, set up facilities for supplying and servicing ships;

develop air transport, build airports, an aircraft repair base, create air traffic control and service systems;

develop railway transport and its repair base;

modernize and expand the radio-broadcasting, television, telecommunications and postal service systems;

solve the passenger transport problem in Havana on the basis of economically feasible use of various modes of passenger transport, including the study of a variant of an underground railway construction.

#### **10. In science and technology:**

carry out specific scientific and technological research activities pertaining to the National Food Programme of the Republic of Cuba, in particular, the use and protection of water and land resources, development of plant and animal genetics, creation of a system of animal fattening on the basis of home-produced fodder, development of technology and new types of products from processing sugar cane, improvement of agricultural machinery systems, identification of available means of plant protection on the basis of home raw materials, development of pharmaceutical, veterinary and microbiological industries, introduction of non-waste technology for processing agricultural produce;

implement scientific and technological research related to the fuel-energy complex, in particular, geological exploration for oil and gas, their processing, introduction of nuclear energy technology, improvement of energy systems in major industries, incorporation of non-traditional sources of energy;

intensify the scientific and technological development of the machine-building and metallurgical complex, related to the use of available minerals, design and production of prototypes of machinery and equipment for Cuba's key industries, development of the production of raw materials and components for the electronic and electrical engineering industries.

### **IV. REALIZATION OF THE PROGRAMME**

Concrete directions, volumes and projects of economic, scientific and technical cooperation, resulting from this Programme, priorities and dates of construction of individual projects and implementation of measures within the framework of cooperation will be determined and specified:

in the course of coordination of state plans of economic and social development of the USSR and the Republic of Cuba for five-year periods;

at the time of concluding agreements, contracts and other treaties on economic, scientific and technical cooperation, specialization and cooperation in production;

by long-term trade agreements, annual protocols on trade turnover and payments, pricing arrangements;

by agreements and treaties concluded within the framework of CMEA with both countries' participation.

For the purpose of fuller realization of measures provided for in this Programme the ministries and agencies of both countries in consultation with planning bodies will work out proposals to make more precise and specific the main guidelines set out in the Programme, and will conclude agreements on cooperation, specialization and co-production in the relevant fields on their basis.

The Intergovernmental Soviet-Cuban Commission on Economic, Scientific and Technical Cooperation and central planning bodies of both countries will monitor the implementation of cooperation measures agreed upon in this Programme, as well as make recommendations whenever necessary on the further development of economic, scientific and technical relations between the Soviet Union and the Republic of Cuba.

For the Government of  
the Union of Soviet  
Socialist Republics  
**N. TIKHONOV**

For the Government  
of the Republic  
of Cuba  
**F. CASTRO**

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CEMA/EASTERN EUROPE

#### CEMA COUNTRIES' 1984 ECONOMIC RESULTS REVIEWED

Moscow APN DAILY REVIEW in English 20 Mar 85 [page number not given]

[Excerpts] In the last few weeks the press of the fraternal countries has published statistical bodies' preliminary data on the outcome of the work in 1984. They show that the states of the community have made confident strides forward along the road of building the new society, consistently implementing the plans outlined by the congresses of their Marxist-Leninist parties. The indissoluble unity and cohesion of the fraternal countries and their common striving for the further development of cooperation and socialist economic integration are becoming an ever more substantive factor of the consolidation of the standing of the community in the world economy and of increasing its influence on the international scene.

Nineteen hundred eighty four economic growth rates for nearly all states of the community were markedly higher than at the beginning of the five-year period, and surpassed the average yearly indicators for the first three years.

An important role was played in this growth by the documents of the CEMA Economic Summit Conference in Moscow, which have set out the general strategic line of the states of the community, their common approach to solving the major problems of socialist construction and defined the main long-term areas of the cooperative effort in key branches of the economy and in the field of scientific and technological collaboration. The conference had given a powerful impetus to the deepening of the integrative processes and exerted a positive influence on the economic life of each fraternal country. As a result, the coordination of national economic plans is being perfected, direct links are being expanded between kindred enterprises and industries, along with the exchange of research achievements and advanced experience, and the partnership in production and in scientific and technological innovation is being strengthened.

Nineteen hundred eighty four saw the following national income increases, compared with the previous year: 4.6 percent for Bulgaria, 3 for Hungary, 5.5 for the German Democratic Republic, 4.4 for Mongolia, 5 for Poland, 7.7 for Romania, and 3.2 percent for Czechoslovakia. Cuba's aggregate social product rose by 7.4 percent. The economy of Vietnam, undermined by long imperialist aggression, is ever more confidently gathering strength. Last year new industrial plants, generating units and various workshops

became operational there. The republic more than met the yearly plan targets for the production of electricity, phosphorous fertilizers, electric motors, diesel engines and other items.

As before, industry is a dynamic branch in the fraternal countries. Here are the main indicators of its performance for the past year. In Bulgaria the volume of industrial output went up by 4.5 percent; in Hungary by 3, the GDR by 4.2, Mongolia by 8.3, Poland by 5.3, Romania by 7, and Czechoslovakia by 3.9 percent. It is to be noted that the bulk of this increment came from higher labour productivity. The large-scale movement for thrift and diligence made it possible in most of the fraternal countries to achieve a certain reduction in the specific consumption of energy and material resources.

Adhering to the line of production intensification and of raising the efficiency and quality of work, the CEMA countries have paid special attention to the refinement of the structure of their respective economies and to the introduction of progressive technologies and methods of the organization of production. The fascist advance was registered in the branches of industry, such as power engineering, machine building, chemistry and petrochemistry, that are connected with the acceleration of scientific and technological progress. For example, as against 1983, the volume of production in general engineering in Czechoslovakia rose by 6.5 percent and that of electrical engineering by 12.2 percent; the respective figures for Poland were 8.7 and 11.6. The GDR's manufacture of industrial robots increased by one-third. A more than 13 percent rise in the output of computers was recorded in Romania. Chemical goods production went up considerably in Bulgaria, Hungary, Cuba and a number of other countries of the community. The cooperation of the fraternal states is expanding in electronics, microprocessors and robotics on the basis of signed multilateral agreements.

In the GDR the fourth year of the five-year plan period proved a record year in crop yields. A per-hectare average of 45 metric centners of grain was gathered in. The plans for purchases of meat, milk, wool, eggs and other livestock products were considerably overfulfilled.

The agriculture of Bulgaria has been developing steadily. Its 1984 gross output went up by 6.8 percent. Grain production exceeded 1 ton per head of the population. The state purchases of milk, meat, grapes, apples, tomatoes and sunflower seed also increased. The following data are likewise remarkable: as compared with 1980, grain production in the republic rose by over one-fifth, that of milk by 18 and that of eggs by 11 percent.

A record national grain crop of 15.7 million tons was also harvested in Hungary; this is 2 million tons more than in bumper-crop 1983. The average per-hectare yield of wheat was 54 metric centners, and that of maize 59. The farmers increased the production of sugar beet by 15 percent, and the output of potatoes by 28 percent. But the fruit harvest proved 13 percent smaller than in the previous autumn. The country registered increased meat purchases. While noting the successes of cooperative and state farming, the press at the same time draws attention to the fact that, as in the years before, production expenses here rose at a more rapid pace than the total agricultural output.

The past agricultural year was favourable for Poland. Grain yields averaged 30 metric centners per hectare, as against 26.9 in 1983. Twenty-four million tons of wheat, rye, barley and oats were gathered in. The state purchasing stations received 6 million tons of food grain, which is significantly more than in the preceding year. This permits cutting down the import of wheat by 1.6 million tons as against 1982. Yet, as the weekly ZYCIE GOSPODARCZE points out, in order to satisfy its needs fully the country will still have to import about 2 million tons of wheat and 1.5 million tons of feedgrains.

The people of the Czechoslovak Socialist Republic marked last year a significant date--the 35th anniversary of the Ninth CPCZ Congress, which had mapped out the course for socialist transformation in the Czechoslovak countryside. At present, about 1,700 cooperatives are functioning in the country; they account for 63 percent of all agricultural land. Together with state farm workers, the cooperators have in the current five-year period achieved a considerable growth in the farm and livestock product output. The 1984 increase was 3.6 percent compared with the previous year. The total grain output reached a record national level of 12 million tons. There was produced more of meat, milk, butter and other products. The average yearly milk output per cow reached 3,520 litres. The labour productivity in cooperative farming went up by 6 percent.

A record yield of grain and leguminous crops, sugarbeets, vegetables and potatoes was obtained last year in Romania. Per-capita grain production amounted to 1,042 kilograms. Cattle, pig and poultry numbers increased. However, despite the generally good results of 1984, notes the Romanian press, the level of production did not reach the target.

The Economic Summit conference has put forward the task of promoting speedier development for Vietnam, Cuba and Mongolia and of raising the efficacy of their economies so as to equalize the development levels of these states with those of the European CEMA members. Much attention is being paid in this connection to the rendering to them of help also in the achievement of agricultural production growth.

The Soviet Union, Bulgaria, the GDR, Czechoslovakia and other states of the community are helping the peoples of Mongolia, Cuba and Vietnam in the construction of state farms and processing enterprises, the creation of machine repair facilities, the introduction of new technologies and the expansion of irrigation. All this makes for the growth of the efficiency of the agricultures of the fraternal countries. In Mongolia the average yearly output of this branch has over 4 years of the current five-year period increased by 13 percent, as compared with the corresponding period of the previous five-year span. Cuba has raised its output of citrus fruit and tobacco, and enlarged its sugarcane plantations. In 1984 it gathered in 600,000 tons of fruit against 100,000 tons in the year of the victory of the revolution.

Heavy trials fell to the lot of the Vietnamese farmers last year. In the spring and summer they harvested a record rice crop, but typhoons then descended upon the fields. Enormous damage was done to the autumn plantings. Still, the farmers managed to gather in over 15.6 million tons of rice as a whole, which is 870,000 tons more than in 1983. Cattle, pig and poultry numbers increased in cooperative and individual farming.

Successful economic development permits the socialist states consistently to improve the living standards of their peoples. The fraternal countries allocate up to three quarters of their national income for social and personal consumption. The year 1984 saw increases in real per-capita income and an expansion of the retail trade turnover in the community; many tens of thousands of families moved into newly-built houses. Science and education developed successfully, the cultural level of the population rose and medical assistance improved.

(PRAVDA, March 18. In full.)

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CEMA/EASTERN EUROPE

CEMA SCIENTIFIC-TECHNICAL COOPERATION PROGRAM OUTLINED

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[Article by V. Kapitonov, "candidate of economic sciences and senior science associate of the International Institute for Economic Problems of the World Socialist System, engaged in the problems of scientific-technical cooperation between the CEMA member-countries": "The CEMA Countries on a Course To Accelerate Scientific-Technical Progress"]

[Excerpts] Following the Leninist course, the communist and worker parties of the countries belonging to the socialist community have set a historic task--that of organically combining the achievements of the scientific-technical revolution with the advantages of the socialist system of economic operations. Fulfillment of this task is possible only on the basis of comprehensively intensifying integration process within the spheres of science and production, accelerating scientific-technical progress in each country, and putting world scientific-technical experience to effective use. "Intensification, the accelerated introduction of scientific and technological achievements into production, and the implementation of major comprehensive programs--all this must ultimately raise the productive forces of our society to a qualitatively new level,"<sup>1</sup> emphasized K. U. Chernenko at the February (1984) CPSU Central Committee Plenum.

The correctness of the course adopted by the CEMA states--a course to develop socialist economic integration and to comprehensively accelerate scientific-technical progress--is attested to by the following facts. The national income of the CEMA countries has increased by more than 8.6 times in comparison to 1950, and the total volume of their industrial production has increased 14 times. The national economic potential of the CEMA countries has grown approximately 3 times more rapidly than that of the capitalist states, and their specific share in the world industrial production amounts to one-third. The CEMA countries now account for one-third of the world's scientific-technical potential, one-quarter of the world's national income, and one-fifth of the world's agricultural production. The average annual growth rates of the CEMA countries' national income during the period 1951-1983 reached 6.7 percent, while that of the developed capitalist states reached 3.8 percent, and the average annual growth rates in industrial production reached 8.3 percent and 4.2 percent respectively.

Over the last year in the USSR 3,800 models of new types of machines, equipment, apparatuses, instruments, and automation means were built; more than 11,000 mechanized flow and automatic lines were established in industrial enterprises; more than 5,000 sectors, workshops, and production units were comprehensively mechanized and automated; and approximately 700 automated systems were built for accounting, planning, and management, including approximately 600 automatic control systems for technological processes.

The development and implementation of a unified technical policy for the entire socialist community is of paramount importance at the contemporary stage. This is because the scientific-technical revolution has simultaneously involved all the countries and functional elements of social production within the complex. The task lies in ensuring that attention is concentrated in the process of scientific-technical cooperation on those sectors of scientific-technical progress that ensure the greatest economic effect. A country's position in the international arena depends in many ways on how quickly and efficiently it can utilize scientific-technical improvements. The role of external factors in the acceleration of scientific-technical progress, among which the chief place belongs to mutual cooperation between the socialist states in the sphere of production, science and technology, and the development of mutually connected forms of combining their efforts to jointly resolve scientific and technical problems, is therefore fundamentally increasing at the contemporary stage.

The CEMA countries now have a powerful joint scientific-technical base at their disposal that makes it possible for them to fulfill any--even the most complex--tasks in the sphere of both fundamental and applied research. The Soviet Union has the greatest scientific-technical potential. Many thousands of scientific institutions, approximately 250 scientific-production associations, almost 900 higher educational establishments, and approximately 40,000 experimental design organizations and subsections carry out research and elaborations in the USSR. Individual research and elaboration work is also carried out by more than 50,000 laboratories at industrial enterprises. Approximately 4.4 million people, including 1.37 million scientific and scientific-pedagogical workers and 430,000 doctors and candidates of sciences, work in the sphere of science and scientific services. The state annually registers more than 80,000 results of research and elaborations and 70,000-80,000 inventions. Expenditures on science in the country amount to approximately 5 percent of the national income.

However, there is still an unwarranted dissipation of struggle of strengths and resources on studies of little current value which do not lead to the building and large-scale introduction into production of progressive, resource-saving technologies, technical equipment, and materials. According to approximate expert evaluations alone, the duplication of scientific-research and experimental design works and the application of their results through the community as a whole results in an annual loss of 5-7 billion rubles.

In order to increase the aggregate feedback from our countries' great scientific-technical potentials and to enhance the influence of these

potentials on social production, it is essential to consistently coordinate national scientific-technical policies. This will ultimately make it possible to develop a unified, coordinated scientific-technical policy--the main link in socialist economic integration.

Development of a coordinated scientific-technical policy for the CEMA member-countries presupposes selecting the priority sectors of scientific-technical cooperation which determine long-term scientific-technical progress in key branches of the economy while taking the conditions of development in each country into account; concentrating efforts and resources on the fulfillment of priority scientific-technical tasks; and coordinating the export-import policies of the CEMA states in matters connected with the exchange of the latest scientific and technological achievements with third countries.

This policy must be aimed at raising the technical level, improving the quality, and increasing the competitiveness of products manufactured by industries in the CEMA countries with the aim of expanding their export potential; strengthening the economic and technological independence of the CEMA countries from the import of products from capitalist states; jointly and efficiently utilizing world scientific-technical achievements for the purpose of fulfilling priority tasks; and ensuring the economic and organizational prerequisites for rapidly mastering and introducing the results of research and studies, and for building new production units. Precisely this collective course is called upon to determine the main structural and qualitative changes in the national economies of the partners and also the long-term system of the international division of labor.

The scale of the set tasks to accelerate scientific-technical progress requires a corresponding reorganization of scientific-technical cooperation and its shifting to a special purpose program method ensuring the closest possible mutual connection between all links in the chain--from science to production. This is the aim of the agreement reached by the participants in the Economic Conference regarding the joint development, on the basis of national programs, of a comprehensive program of scientific-technical progress for the next 15-20 years as the basis for drawing up a coordinated and, in some spheres, a unified scientific-technical policy with the aim of resolving as rapidly as possible and through joint efforts the most important problems in the sphere of science and technology and introducing achieved results into production in interested countries on mutually advantageous conditions. It is deemed necessary to increase cooperation in the sphere of standardization and unification and to expand the mutual exchange of information on scientific-technical achievements.

The comprehensive program of scientific-technical progress is a fundamental international document of a preplan nature and represents the concentrated expression of the strategic aims of scientific-technical cooperation, and also of the ways and means of fulfilling these aims. It envisages covering all stages in scientific-technical progress: fundamental research, scientific research and experimental design elaborations, the introduction of their results into production, and the organization of serial production while taking scientific-production cooperation into account. In other words,

the comprehensive program must be a long-term concrete program of joint actions in science, technology, and production, a program called upon to ensure a cardinal increase in labor productivity, the economy of all forms of resources, and the technical-economic independence of the fraternal countries from the West.

The CEMA Committee for Scientific-Technical Cooperation has now set the wheels in motion for preparing a draft comprehensive program. The basic principles of national concepts of scientific-technical development and of the CEMA countries' long-term comprehensive programs for scientific-technical progress, the main sectors of scientific-technical cooperation between the CEMA member-countries up to the year 2000, long-term agreements and special-purpose programs for cooperation in the most important branches of material production, the long-term program for multilateral cooperation between academies of sciences in socialist countries in the sphere of the natural sciences, and a number of other CEMA documents form a definite initial basis for this program.

The program envisages intensifying cooperation in selected sectors of fundamental research which are of paramount significance for the scientific-technical progress of the CEMA countries, and also in problems, the study of which will make it possible to ensure a theoretical reserve and a basis for creating new generations of technical equipment and technology. This can include the following problems: the study of the theoretical bases for developing microelectronics and computer mathematics, and also the determination of effective ways of building new generations of robots and flexible automated production operations; the further development of biological science and genetic and cellular engineering in order to more rapidly master new biotechnology, the selection of plants and animals with high productivity, and the technology of the mass production of proteins, amino acids, and effective medicinal preparations; the mastering of energy produced by thermonuclear fusion and by photosynthesis, and also other nontraditional energy resources; the creation of new high-quality materials possessing great durability, anticorrosive resistance, and ductility; and further steps in the scientific and technological conquest of space.<sup>4</sup>

Today it is very difficult, sometimes even impossible, to fulfill the global tasks facing mankind on one's own, without relying on extensive international cooperation. Let us take, for example, the problem of mastering thermonuclear energy based on laser synthesis. The advantages of this method of generating energy can be demonstrated by the following figures: An ordinary thermoelectric power plant with a capacity of 1 million kilowatts annually consumes 2.1 million tons of coal (or 10 million barrels of oil), a nuclear power plant with the same capacity--30 tons of uranium ore, and a thermonuclear power plant--600 kilograms of thermonuclear fuel. But, according to present calculations, \$30-50 billion would be required to master thermonuclear energy and to build the first laser electric power plant, but the cost of each subsequent plant would be reduced to \$1-2 billion. Thermonuclear energy will become profitable when it draws nearer to conventional energy in terms of scale, that is, after approximately \$10 billion have been invested in it, and this will require a great amount of work

(approximately 500 million man-years).<sup>5</sup> Such a grandiose change in the world energy system is impossible without international cooperation between scientists and specialists.

As it has been already stated above, the fact that discoveries have been made is an indispensable but still insufficient factor for developing the process of converting the production system to the new contemporary technological processes. Science on its own, in its "pure" form, is only potentially a productive force. Science becomes a direct productive force only when it finds its application in production, appearing thereby in the form of materialized labor (machines, technological processes, and so forth). It is in this sense that K. Marx spoke about science being "realized" in the machine<sup>6</sup> and about the fact that science appears as one of the "forms of materialized labor."<sup>7</sup> It is precisely the close unity between science and production that holds colossal possibilities for scientific-technical progress transforming the entire reproduction system. The main task, that is, the task of building the material-technical basis of communism, can only be solved along the road of rapid development and large-scale mastering and introduction of progressive technologies and technical equipment, and new materials.

Proceeding from this premise as well as from the need to concentrate the forces and resources of CEMA countries in the main sectors of scientific-technical progress, the Economic Conference also determined the primary sectors of scientific-technical cooperation. These sectors are: electrification of national economy; complex automation, including flexible automated production operations; an accelerated development of the nuclear power engineering; development and introduction of new materials and technologies; and biotechnology. It is along the lines of these sectors that the anticipated most essential socioeconomic consequences and results of scientific-technical progress for the national economies of our countries as well as their impact on the effectiveness of the international socialist division of labor and production specialization and cooperation are evaluated; that the anticipated scale of introduction of the results of joint research activities into production operations is assessed; that the forms of multilateral cooperation on selected problems ensuring the realization of goals of the comprehensive program are substantiated; and that the resources and conditions necessary for the implementation of the selected cooperation programs are appraised.

The CEMA countries have assigned their leading scientists and science organizers to prepare a list of the problems that will be included in the comprehensive program (including the proposals designating the chief ministries and departments of CEMA countries which would be responsible for the study and realization of these problems) as well as a list of the final goals, scientific and technical studies, and possible time schedules for their completion with corresponding technical-economic substantiations.

"In the Soviet Union," N. A. Tikhonov emphasized in his speech at the 39th CEMA Session, "the preparation of the proposals for the program has not been entrusted solely to the organs in charge of science, but also to the State

Planning Committee and the departmental ministries. We strive to join the compilation of the program with the drafting of the new 5-year plan and to plan the necessary resources. Work should also be arranged in an analogous way in the CEMA organs, as well as in relation to the coordination of plans."<sup>8</sup>

To attain the goals envisaged by the comprehensive program, the CEMA organs and the national ministries and departments have initiated the preparation of proposals for concrete programs of cooperation and for a coordinated system of agreements and contracts. A good beginning has been already made in this work. The program of cooperation in the development of modern electronic computers as well as the general agreements on microprocessors, on industrial robot technology, on the development of microelectronics, and so forth are being implemented. The unified electronic computer system Ryad has been already built and the mastering of the fourth generation of the machines of this type is now in progress. Within the framework of their community the CEMA countries are satisfying the basic demand for computer equipment. In 1983, the reciprocal deliveries of this equipment amounted to a total value of more than 4 billion rubles, increasing three-fold the corresponding average index for the seventies. A single unified supply basis of electronic equipment is being created. Work is in progress to build some 100 types of machines and equipment involving the use of robots.

However, the fact must be borne in mind that a new level of interaction between the socialist states is needed to successfully solve the tasks emanating from the comprehensive program. Let us examine this with the example of one of the priority sectors of cooperation, the electronization of the national economy. A new generation of electronic equipment needed for equipping the "plants of the future" is already now being developed and tested in practice. On the basis of a complex automation of production processes, these plants of the future will significantly increase labor productivity and improve the quality of their products as well as noticeably reduce the "pressure" of the production system on labor and natural resources. However, what is needed for equipping these plants are, first, computers--beginning with the large high-speed electronic computers and ending with mini electronic computers--that are compatible by their technical qualities and by programming. Second, reliable and unified peripheral installations without which the computer technology cannot be used directly in the process of designing and manufacturing products. Third, unified programs of mathematical calculations, expenditures for the elaboration of which are rapidly rising.<sup>9</sup> Fourth, the construction of high-capacity communications networks that will make it possible to build the systems of collective utilization of electronic computers. And fifth, well-trained cadres that will be able to effectively utilize this technical equipment. In addition to this, a multitude of questions arises in this connection which are connected with the organization of the manufacture of diverse instruments and installations, new materials, and so forth.

Briefly, it is a special kind of a pyramid of concrete scientific-technical and production tasks that is now taking shape and the success of the common general task depends, in the final analysis, on the fulfillment of each

of these tasks. Any attempts to solve these questions autonomously not only would result in an enormous expenditure of resources, but would also fail to yield desired results. The experience of the collective elaboration of the Ryad series of electronic computers has demonstrated that, without unifying their efforts, the CEMA countries would not today have the computer equipment that they have and would be compelled to import it in ever larger quantities and overcome, in this connection, not only the price barriers, but also the trade and political barriers.

Today there is no longer any doubt that, in order to be able to successfully fulfill the tasks of the priority sectors determined by the comprehensive program, these sectors must be developed into a system of mutually interconnected agreements and contracts on scientific-technical and production cooperation, something that will represent the organizing principle of the development of multifaceted and deep forms of international cooperation and the division of labor.

The electronization of the national economy and the complex automation of production operations on the basis of the utilization of industrial robots and microprocessor equipment, which act as catalyzers of the scientific-technical progress, will have a revolutionary effect on all spheres of the society's development.

At present, the CEMA countries are already implementing both the national and international programs to provide robots for their production operations. The USSR should increase its pool of industrial robots to nearly 40,000 units in 1985. In the near future the CEMA countries should considerably increase their pool of industrial robots: It is planned to introduce into operations 200,000 industrial robots by 1990. However, for complex automation it is necessary to ensure a transition to setting up flexible automated production operations that will speed up the process of readjusting the production operations for the manufacture of new types of products, something that will ensure the optimal utilization of production capacities and essentially reduce the resource intensiveness of production operations. This is essentially a qualitatively new level of automation that makes it possible to change over from the individual automated machines and units of equipment to comprehensively automated sections and automated enterprises and plants.

The development of high-speed, high-quality, and reliable control systems of production operations at all levels by means of computer technology represents the main link in automation. An accelerated development of microelectronics on the basis of an increasingly perfected element basis [elementnaya baza] and the construction of large and small electronic computers and microprocessor equipment will provide unlimited possibilities for their utilization in the elements of control over robots, equipment, machines, complex automated units, and instruments.

According to some estimates, microprocessors can be used in more than 200,000 different types of industrial and everyday service mechanisms and installations, which in itself represents a technical revolution. The USSR

alone plans to spend for the reconstruction and reequipping of enterprises of the electronics industry in the 11th 5-Year Plan period 66 percent of the total volume of its capital investments envisaged for the construction of production projects.

The large-scale utilization of microprocessing equipment in the systems of machines and equipment will make it possible to increase the productivity of equipment, improve product quality, reduce the use of manual labor, and economize in resources. For instance, equipping 1,000 machine tool units with computer programmed control by means of microcomputers can ensure the release of 2,500 machine tool operators. The replacement of minicomputers in technological equipment with microcomputers will increase the equipment's reliability by 7 to 10 times, reduce costs by 5 to 7 times, and considerably reduce the use of the capacity [moshchnost] of control mechanisms. The amount of energy used by modern electronic computers is 10,000 times less than the energy used by the first models capable of an approximately equal productivity.

There is enormous potential in the development of cooperation between CEMA countries in the sphere of nuclear power engineering. At present, nuclear power plants with a total capacity of approximately 28 million kilowatts are in operation here. Their total capacity will increase to 100 million kilowatts by 1990. It is assumed that in the future nuclear energy will be developed not only for the production of electric power, but also for the needs of heating systems--which will result in a large-scale elimination of the use of organic fuels from the fuel and energy structure. Every 1 million kilowatts of capacity of nuclear power plants will make it possible to annually save more than 2 million metric tons of conventional fuels.

Nuclear power engineering is now being developed along the line of developing and building nuclear power plants based on thermal neutrons, which is in itself very effective. In the future this will obviously be supplemented by the construction of fast-breeder reactors and, in the more distant future, by the development of thermonuclear power plants.

The contemporary stage of the scientific-technical revolution raises the question of creating and mastering new generations of materials and perfected technologies for their processing that will correspond to a greater extent to the development of robot technology, microelectronics, power engineering, and other sectors of scientific-technical progress. This will make it possible to more efficiently utilize the raw materials resources, reduce the power and material intensiveness, and ensure a growth of labor productivity. What is primarily involved is a matter of developing work in creating new materials with predetermined qualities, and in improving their reliability, firmness, corrosion resistance, and other useful qualities. Powder metallurgy must be developed at an accelerated pace; this metallurgy opens up possibilities for manufacturing, virtually without any waste, details of any configuration with the highest firmness and abrasion resistance indexes. It has been calculated that the manufacture of every thousand tons of general machine building products by this method releases 190 workers and 80 units of machine tool equipment and saves 2,500 metric

tons of rolled iron and steel and nonferrous metal products. The casting methods, the electron beam and vacuum processes, production operations by means of laser technology, and so forth will be further developed.

The scientific-technical progress at the contemporary stage has led to the development of an innovative sector of contemporary biology, the biotechnology. Extensive utilization of biotechnology will make it possible to provide highly productive fodder for livestock breeding, to create biological means of struggle against pests, to increase the harvest yield of plants and productivity of animals, and to work out on this basis highly productive agricultural technologies as well as to create effective medicinal compounds. Biotechnology also opens up new possibilities for obtaining fuel from the biomass, for building new highly efficient biocomputers, and so forth. Long-term prospects are that the future of biological production will consist of an unlimited diversity of processes and organic products.

The few aforementioned examples of and possibilities for the development of priority sectors of the scientific-technical progress graphically demonstrate that these and other tasks facing the countries of socialism can only be solved by deepening and perfecting the processes of socialist economic integration.

By now the countries of socialism have accumulated extensive experience in coordinating the solution of urgent economic problems. The utilization of this experience, further deepening and perfecting of the process of socialist economic integration, and the development of a closer cooperation than ever before between the scientific-technical, investment, and production complexes of CEMA countries represent a powerful factor in solving the next socioeconomic tasks facing the socialist community.

#### FOOTNOTES

1. K. U. Chernenko, "The People and the Party Are United," "Selected Speeches and Articles," Politizdat, 1984, p 418.
4. G. I. Marchuk, "Topical Tasks of Scientific-Technical Cooperation Between the CEMA Member-Countries," PROBLEMY TEORII I PRAKTIKI UPRAVLENIYA, No 2, 1984, p 4.
5. N. G. Basov, "Laser Thermonuclear Technology at the Service of Progress," MIR NAUKI, Vol 28, No 1, 1984, pp 19-20.
6. K. Marx and F. Engels, "Works," Vol 48, p 37.
7. Ibid., p 537.
8. PRAVDA, 30 October 1984.

9. At present, more than 50 percent of the resources expended for the elaboration of a new manufactured product by means of microprocessors are used for programming. It is anticipated that this percentage share will increase to 90 percent by the end of the decade.

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CEMA/EASTERN EUROPE

COOPERATION WITH VIETNAM IN COAL INDUSTRY REVIEWED

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 11, 1984 (signed to press 23 Nov 84) pp 18-21

[Excerpts] The fact that at the present time such power sources as oil and natural gas are absent in the Socialist Republic of Vietnam, and hydraulic power engineering is still inadequately developed, determines the role of coal as the basic source of power and its significant share in the fuel balance of the SRV, as well as in gross exports. This places the coal industry in one of the first places among the other sectors of the national economy. Its progress has influenced and continues to influence the course of the socialist industrialization of the country and the increase of the standard of living of the population. According to the prognosis of specialists, the demand for coal in the SRV will double every 10 years.

The SRV has available large reserves of solid fuel: The proved reserves of coal alone constitute about 3,300 million tons, of these 3,170 million tons are anthracite. The Quang Basin, where at the present time more than 90 percent of the total volume of coal are mined, accounts for 87 percent of these reserves. The anthracite of this deposit is highly valued on the world market thanks to its good technical characteristics (the heat of combustion is 8,000 to 8,500 kilocalories per kilogram, the carbon is higher than 90 percent, and sulphur--less than 0.5 percent). In 1977 large deposits of coal with a significant content of volatile components were discovered in the Bakbo Valley. The expected reserves at a depth of up to 1,700 meters in the Tien Hai region are 3,700 million tons. Besides these two large deposits, the SRV has 25 coal deposits with reserves of up to 10 million tons each.

The Present-Day Stage

Today the coal industry of the SRV has a large mine fund. Its coal enterprises are operating efficiently and steadily. This makes it possible to constantly increase the output of coal in three basic strippings (Deonay, Khatu, and Kokshau), which provide for a total output volume of 5.1 to 5.2 million tons a year, with a projected capacity of 3.7 million tons. Not long ago, another large stripping at Kaoshon was put into operation with a projected capacity of 3 million tons a year.

At the present time, the share of coal output by underground method amounts to only 20 to 30 percent, in the future this method will become dominating, it will account for 93 percent of the total coal reserves.

It must be especially emphasized that all plans of large coal stripping in the SRV are implemented by specialists of the Soviet Union. They provide for the use of the most up-to-date equipment.

The operating strippings are equipped with power shovels of the Type EKG-4, 6, and EKG-8I, dump trucks with a carrying capacity of up to 40 tons (BelAZ-540, BelAZ-548), SBSH-200 and SBSH-250 drilling rigs, bulldozers with a capacity of the base [unit] of up to 300 hp of Soviet manufacture, as well as E-302 power shovels and Tatra dump trucks supplied by the CSSR.

The improvement of the technology and the introduction of modern machines and equipment in the coal industry of the SRV have made it possible to increase the level of the comprehensive mechanization of coal mining and to significantly improve the conditions of the labor of miners.

After the unification of the country, the intensive development of the coal industry required the expansion and intensification of geological survey work and a sharp increase in the volume of capital investments. At the present time, the second phase of the Kaoshon stripping is being constructed, with a capacity of 3 million tons a year, the Nongshon stripping is being reconstructed (0.1 million tons a year), the Nuykhong stripping (0.5 million tons a year) and the Nazyong stripping (0.6 million tons a year) are being expanded, and the Uongtkhyong stripping is being constructed. The second phase of the Mongzyong Mine (0.9 million tons a year) is being put into operation. Construction work is being done on the Vangzan' Mine in Maokhe. Plans call for the construction of the Khetam Mine (1.25 million tons a year) and the Nuybeo stripping (1.2 million tons a year).

The capacities of the concentrating mills are growing and modern methods of concentration are being introduced in them. As has already been mentioned, not long ago a concentrating mill with a capacity of 3.1 million tons a year, which was built with the assistance of the Polish People's Republic, was put into operation. It bears the name: Polish-Vietnamese Friendship. The share of mechanical concentration (for ordinary coal) is reaching 40 to 50 percent. The concentration products obtained are good ones: The ash content of the anthracite does not exceed 8 percent, the proportion of large-class coal in the saleable output is being kept at a constant level. About 25 to 30 percent of the volume of saleable coal goes for export, which makes it possible to justify the large expenditures in the industry. For the export of coal, special wharfs have been constructed, including the Kamfa sea wharf, where the loading is carried out with the aid of an automated conveyer in a complex with wheel excavators (with a capacity of 800 tons per hour). This is one of the technically most highly equipped wharfs in Southeast Asia.

The coal industry of the SRV has a rather large repair and mechanical base. It includes 8 plants, including a plant for the manufacture of chains for flight conveyers with automated technical lines. Besides routine repair, the plants also carry out the overhaul of mining-transport machines and equipment and put out spare parts. Three technical maintenance stations for mining-transport equipment are also in operation.

The SRV numbers 37 technical schools and courses, which train workers in the coal industry in 40 specialties every year.

Recently a great deal is being done in the SRV for the improvement of the mechanism of the management of the economy. This also applies to the system of management of the coal industry. The goal is set to increase the efficiency and regularity of work. At the present time, a three-stepped system of production management is being used: Ministry--combine--enterprise. Four territorial-industrial combines are in operation, which maintain direct relations with such organizations of the ministry as the Administration for Coal Marketing, the Administration for the Export and Import of Coal and Material-Technical Supply, the Administration for Geological Survey Services, as well as the Scientific Research Institute of Mining, the Institute for the Planning of Coal Industry Projects, and the Institute for the Construction of Mining Machines.

### The Role of Cooperation

The development of the coal industry in the SRV, as well as our entire national economy, is closely connected with the militant solidarity and close cooperation between the SRV and the other countries of the socialist commonwealth.

The assistance of the Soviet Union has played and is playing a decisive role in the strengthening of the fuel and energy base of Vietnam. From the first days of the victory of the Vietnamese people over the French invaders, the Country of the Soviets has extended to us the hand of fraternal assistance in the restoration of the coal enterprises in the Hong Gai--Kampha Region. The Soviet Union also extended a great deal of assistance to us during the 1st Five-Year-Plan (1961-1965) in the reconstruction and expansion of the Khatu, Deonay, and Kokshau coal strippings and in the restoration of the Vangzan' and Mongzyong mines. Since 1971 the USSR has been extending technical assistance to the SRV in the construction and operation of coal projects, including the largest stripping in the country--Kaoshon. These strippings and mines yield more than 80 percent of all the coal being mined.

The Soviet-Vietnamese Agreement on Friendship and Cooperation, signed on 3 November 1978, provided a new impulse to the development of cooperation in the coal industry. The USSR continues to assist the highly productive functioning of all Vietnamese coal enterprises and projects. The volume of Soviet deliveries of machines and equipment during 1981-1985 will significantly exceed the level of 1976-1980. Our countries have signed an agreement on cooperation in the construction and expansion of a number of mines and strippings with a total capacity of 4.1 million tons a year.

In 1981, within the framework of the Soviet-Vietnamese Intergovernmental Commission for Economic and Scientific-Technical Cooperation, a study group was created for cooperation in the coal industry. Three sessions of it have been held, at which the most important questions of the development, coordination and realization of measures on cooperation were examined, which are called upon to increase the efficiency of the coal industry of the SRV.

The cooperation of Vietnamese and Polish miners is continuing. An agreement has been signed on the technical assistance of the Polish People's Republic in the construction of the Yenty Coal Mine in the SRV, with a projected capacity of 2.1 million tons a year and two technical schools in the Uong Bi region for the training of miners. Every year the Polish People's Republic sends a significant quantity of mining equipment to the SRV.

The Khcham Mine, with a projected capacity of 0.3 million tons a year, which was equipped with equipment supplied by the Socialist Republic of Romania, has begun to produce an additional volume of coal.

Since 1978 the SRV participates in the CEMA Permanent Commission on Cooperation in the Sphere of Coal Industry. At the present time, the possibilities of the more extensive inclusion of the SRV in this cooperation are being studied.

A new stage in the development and improvement of the cooperation among the fraternal socialist countries, the solution of the tasks of further socialist economic integration and an increase of the economic potential of the socialist commonwealth was opened up by the Economic Conference of the CEMA Member Countries at the Highest Level.

On the eve of the Conference, on 11 June 1984, a meeting of the general secretary of the CPSU Central Committee and the chairman of the Presidium of the USSR Supreme Soviet, K. U. Chernenko, with the general secretary of the Central Committee of the Communist Party of Vietnam, Le Duan, and the member of the Politburo of the Central Committee of the Communist Party of Vietnam and chairman of the SRV Council of Ministers, Pham Van Dong, took place. It underscored the fact that the Soviet-Vietnamese relations, strengthened by the agreement, are acquiring ever greater scope with every year and are reliably serving the solution of the tasks of communist and socialist construction set by the 16th CPSU Congress and the 5th Congress of the Communist Party of Vietnam.

On 12 June 1984 a meeting took place of N. A. Tikhonov, member of the Politburo of the CPSU Central Committee and chairman of the USSR Council of Ministers, and Pham Van Dong, member of the Politburo of the Central Committee of the Communist Party of Vietnam and chairman of the SRV Council of Ministers took place in the Kremlin, at which a great deal of attention was given to the further development and the increase of the effectiveness of economic and scientific-technical cooperation of the USSR and the SRV.

There is no doubt that these meetings will play a large role in the expansion and intensification of the fraternal cooperation of the USSR and the SRV in the coal industry as well.

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CEMA/EASTERN EUROPE

IMPORTANCE OF INDUSTRIAL ROBOTS, COMPUTERS DISCUSSED

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 11, 1984 (signed to press 23 Nov 84) pp 22-29

[Article by Mikhail Melkonyan, CEMA Secretariat: "Flexible Production Systems --the Scouts of the Future"]

[Text] A leading link of the economic strategy of the CEMA member countries in the foreseeable future is the maximum utilization of the achievements of the scientific-technical revolution. That is the conclusion of the Economic Conference at the Highest Level, which took place in Moscow in June 1984.

To solve this most important political and economic task, the participants of the Conference pointed out, it is necessary to raise the cooperation of the fraternal countries to a new and qualitatively higher level, to concentrate efforts and funds on the main, key directions of the development of science and technology. To this end, an understanding was reached on the development of the Comprehensive Program of Scientific-Technical Progress for the period up to the end of the current century. An important place in it is occupied by the unification of efforts for the creation and manufacture of new means of automation, including flexible production systems (GPS).

In conformity with the charge of the Economic Conference at the Highest Level and the 38th (extraordinary) meeting of the CEMA Session at the 11th meeting of the CEMA Executive Committee, a decision was adopted on the creation and organization of the specialized and joined [kooperirovannoye] production of flexible production systems for machine building and their broad introduction in the national economy of the fraternal countries. In connection with this, the CEMA Permanent Commission on Cooperation in the Sphere of Machine Building was charged with the development and output of flexible production systems and the draft of an appropriate general agreement. A great deal of attention to the development of flexible automated systems was also given at the 39th meeting of the CEMA Session which took place in Havana.

For this, a solid basis has been created in the fraternal countries. In many of them, the most modern types of highly-productive equipment "have been granted registration". From year to year, there is an increase in the output of automated machine tools and machines, including with numerical program control, processing centers, industrial robots and robotized complexes, and various models of microprocessor and electronic computer equipment. The flexible production modules and systems are being formed on their basis.

Today special purpose programs have been developed and are being successfully realized, which provide for the accelerated growth of the newest industries that are revolutionizing the entire national economy. In the Soviet Union, for example, it is planned to manufacture more than 100,000 industrial robots during the next five-year-plan, more than 4,000 automatic and semiautomated transfer lines, more than 110,000 machine tools with numerical program control, or 2-3 times more than during the current five years [as published]. By 1990 about 2,000 flexible production systems (including fully automated sectors, shops and plants) and up to 3,000 automated planning systems will be created in the USSR.

In securing the achievement of qualitative advances in the structure and technical level of the socialist national economy and the change of its very appearance, they are the scouts of the future and the microcells out which the production of the 21st century is growing.

The advantages of this latest equipment, the question of how efficient it is, what work is being done in the fraternal countries with respect to its extensive introduction, in what directions it is expedient to develop cooperation in order to solve the most difficult questions in the shortest possible time, were the subject of the International Conference of Leading Specialists of the CEMA Member Countries on Flexible Automatic Industries, which took place in the CSSR in May 1984 on the initiative of the International Scientific Research Institute of Control Problems (MNIIPU, Moscow) and the Scientific Research Institute of Technology and Machine Building Economy (VUSTE, Prague).

The following took part in discussions organized by the chief editorial board with the chiefs of the delegations:

Yordan Kirov, director of the Tekhndinvest [not further identified] Engineering Economic Organization (People's Republic of Bulgaria),

Peter Nad, chief engineer of the Association of Machine Building Plants (Hungarian People's Republic),

Siegfried Kurzahls, chief of the Sector for the Economy of Socialist Enterprises of Dresden Technical University (GDR),

Vladislav Yarominek, chairman of the Scientific Council of the Cybernetic Society attached to the Polish Academy of Sciences,

Vladimir Kudinov, first deputy director general of the Experimental Scientific Research Institute of Metal Cutting Machine Tools (USSR),

Milosh Polak, deputy director of the Department of Machine Building, Manipulators and Robotization of the CSSR State Commission for Scientific-Technical and Investment Development,

Vladimir Kalachev, sector chief of the International Scientific Research Institute of Control Problems,

Zdenek Kozar, director of the Scientific Research Institute of Technology and Machine Building Economy

#### The Summit of Scientific-Technical Progress

V. Kalachev: In the mid-1970's the broad transition to comprehensive--programmed or flexible--automation began in the world economy. After 10 years, i. e., by 1986, according to the calculations of specialists, the number of flexible automatic industries in all countries will exceed 250.

They consist of processing equipment with numerical program control, robotized transportation systems, and automatic warehouses. Computer-aided control secures the synchronous operation of all links of the flexible production system in conformity with the production requirements.

As we see, the basis for the appearance of the flexible production systems two basic achievements of the scientific-technical revolution:

--machine tools, robots and other equipment with program control;

--means of computer, and first and foremost microprocessor, technology.

It is precisely they which make it possible for the machines to reproduce exactly the operations of a master worker who skillfully turns out highly complex components. The only thing needed is to precisely compose a program and to record it on magnetic or perforated tape. It is precisely thanks to them that one can quickly and without loss stop the manufacture of one product and within a short time switch to another, with the best consumer qualities. In other words, to secure the output of new articles without the stopping of production, to supply the market with goods that meet the demand of the buyers and thus differ from others.

This, of course, refers above all to consumer goods and to the products of light industry. But not only! We all know very well that not only coats, hats, and ties manufactured in small lots or, let us say, technical and chemical household goods are enjoying particular success. In our leading machine building, metallurgical and other combines, machine tools, presses or mills which are unique in terms of capacity and design, being produced, as a rule, in a single unit, are appearing with increasing frequency. In order to attain this, the enterprises specializing in them have to reorganize more frequently and readjust their equipment.

In connection with this, I would like to talk about the revolution in the productive forces which the flexible systems are capable of accomplishing, about the role they play in order for production to keep up with the times, and about the main problems which arise before us today in connection with pursuing the broad introduction of these systems.

Z. Kozar: Our and world experience shows: Flexible productions, as they say, are a head or even two higher than other types of modern equipment that are taken separately. They secure a significant growth in labor productivity and competitiveness of the products being produced. And the speeches of our

colleagues at the meeting that has just now taken place on flexible production systems confirmed this in the best possible way. They also showed that the successes which we have attained in the given sphere are in many respects the result of the module principle of the construction of flexible systems.

And what does this mean? It means that they "are assembled" from unified units and blocks, thanks to which the possibility of their "circulation" [tirazhirovaniye] sharply increases, production is becoming many times cheaper and more simplified, and the adjustment and operation are made significantly easier. Another thing is no less important: The module nature makes it possible to prepare equipment for the output of the production, its type and standard size that are necessary today.

In connection with this, I would like to note that, as the 10-year experience of the introduction of flexible systems in the fraternal countries shows, and also on the world scale, their role is great for the majority of productions, but in the first place--average and small-scale productions. And, you know, it is precisely they which today are the main ones in the machine building industry.

V. Kudinov: For this reason, it will not be an exaggeration to say: Flexible systems are a sign of the times. Not by accident is their broad introduction envisaged in almost all fraternal countries, moreover, what is extremely significant, at growing rates. To become convinced of this, it is sufficient to become acquainted with their economic programs, both in the short-term and in the long-term prospect.

In connection with this, I would like to dwell on one theoretical question which has great practical significance. This is the correlation and interdependence between flexible production and so-called production without people. The thing is that a great deal is being written about the latter, moreover not always correctly, picturing the world, as it were, standing with one foot almost in this "house". Meanwhile the problem is much more difficult and multifaceted. What is its essence?

In short, if every plant without people (and more precisely, with the minimum number of attending personnel--operators, adjusters, maintenance staff, and others) is based on flexible productions, not every enterprise where this system is introduced is "without people". This is indicated by experience, both ours and foreign. According to data of the Western press, in the United States and Japan, for example, the technology "without people" is being realized only in a few enterprises with flexible production systems. In the remaining ones--they basically secure the functioning of the equipment in two to three shifts, and on this basis they achieve a significant growth of its productivity and encourage the rapid change of the products list of the output and the production of those types of output which are in particular demand among the buyers.

Why do I concentrate attention on this? Because sometimes the enthusiasm for the new leads to our becoming maximalists: Either everything, or nothing! And this may bring harm to the cause, for, if at the present time all conditions for the broad introduction of flexible production systems are available,

a great deal will still have to be done for the transition to production "without people". And here only the first steps are possible.

Running ahead, I will say that in the USSR, for example, the First and Second Moscow Watch Plants will become the pioneers of fully automatic enterprises in 1986. They, figuratively speaking, will appear as the proving ground on which the latest systems of the control of technical and production processes will go through testing. And their experience will make it possible to make the transition to the more extensive creation of industries "without people" in the future.

S. Kurzahls: What conclusion follows from this? In my view, one: Flexible systems can be of different degrees of automation. And every one of them is good in its own way. Good for a given concrete buyer and a given concrete enterprise. In other words, there must not be a pattern here, a single measure, the aspiration to reach "the ceiling" at any cost.

This is one aspect of the question. There is also another, no less important one. You know, every flexible system--this means large capital investments. **And we must make the expended resources strictly correspond to the yield** and the effect which we will receive. Consequently we must select the optimal variants. Moreover, we must consider not only the economic, but also the social factors. You know, in the conditions of socialist society, in contrast to capitalist society, they are no less significant. Our goal is not only the achievement of higher labor productivity, but also the all-round development of the individual and, consequently, his liberation from exhausting work and, in particular, work that is harmful to health.

Therefore, in conformity with the economic strategy for the 1980's, advanced at the 10th SED Congress in the creation of flexible systems, as well as in the introduction of any other type of new technology, we are guided by the following criteria:

- The increase of the actual productivity of a given section;
  - the increase of the reliability of equipment;
  - the economy of raw material, materials, fuel and power;
  - the reduction of the production cycle;
  - the improvement of the quality and the technical level of the product being produced and the growth of its competitiveness;
- and the elimination of manual labor and the release of workers for transfer to less heavy work.

In other words, the development of automated industries, as well as all economic and technical policy as a whole, must be scientifically substantiated. And the introduction of every new flexible sector is calculated, as they say, with pencil in hand.

Y. Kirov: Continuing this thought, it must be noted that in Bulgaria, too, we have a strictly differentiated approach to the introduction and use of flexible production cycles.

Every enterprise, as it introduces flexible production, bears in mind specific tasks and considers the possibilities at its disposal.

For this reason I would like to associate myself with the opinion of comrade S. Kurzahls: Here a selective approach, which takes all factors into account, is really necessary. Consequently, in every individual case the question must be solved concretely: Which one (or perhaps which) of the aspects of the flexibility is more preferable at the given moment.

Proceeding from this, in Bulgaria, in conformity with the program developed on the national scale, the efforts are directed toward the automation and, consequently, the introduction of flexible production systems in the metal-working industry. With their aid, components of the type of bodies of revolution and casing parts, which differ in terms of dimensions and configuration, are manufactured. Simultaneously preparations are proceeding for the utilization of flexible productions in initial processing, assembling, welding and varnishing and painting shops.

For the solution of these tasks, i. e., the use of flexible systems in selected productions, the corresponding machines with numerical program control, computers, robots and automatic transportation and warehouse equipment are being created.

M. Polak: And in our country, in Czechoslovakia, the introduction of flexible systems goes through in several stages. Certain tasks are solved in every one of them, which create the preconditions for the transition to the next stage, for the solution of new and more difficult tasks.

The first stage consists of integrated production sections. Within the framework of the State Task in Regard to the Development of Science and Technology, they were experimentally projected, prepared on the part of the designers, and inspected in operation for the processing of non-rotation and rotation parts, metal under pressure, and metal for the electrical engineering industry.

Possessing a high degree of automation, the integrated sections are used for the small-scale output of similar articles. They make it possible to significantly increase labor productivity, to significantly reduce the production time of products, and to rapidly switch from one type to another. Another one of their advantages is the freeing of workers from heavy physical labor, routine operations, and their transfer to the preparation, control and the prevention of damage to the equipment.

The second stage consists of flexible production sections.

At the present time, they are being introduced for the processing of rotation and casing parts.

The third stage consists of production systems of higher orders (on the level of the shop, then the plant). This, in point of fact, is a system of interrelated integrated and flexible production sections. Their special feature is the automation not only of the production, but also the auxiliary subdivisions, and in particular the warehouse equipment, stock preparation shops, and others.

The stage by stage solution of the most important scientific-technical problem makes it possible to accumulate experience, to train specialists and workers and thus to secure the painless automation on the basis of flexible systems.

### High Efficiency

V. Kudinov: We have come to know the essence of this latest technology and we have seen what prospects it opens up for the solution of cardinal economic and social tasks that have been advanced by the communist and workers parties.

Now I would like to talk about what we have at the present time, what an effect this provides, and how it helps us in the improvement of production and the increase of its technical level.

. . . The Dnepropetrovsk Plant for the Construction of Electric Locomotives. For 3 years already an automatic shop has been operating here. It is equipped with machine tools with numerical program control, robots and manipulators, and a device for cleaning up shearing. Storage and intrashop transport have also been automated. All subdivisions are connected into a single production mechanism through electronic control. A computer carries out the operational planning and "directs" all operations. Its "electronic brain" commands the delivery of instruments and blanks to the work station. Thanks to the flexible system, the plant, within a matter of minutes, can proceed to the output of any of 370 articles manufactured here.

And what is its efficiency? Here are the official data: Growth of production--by 20 percent, labor productivity--by a factor of 3, and reduction of production area--by 30 percent. The staffs of the subdivision have been reduced by almost 90 persons. They were transferred to other work.

The plant in Dnepropetrovsk is one of about 60 flexible automatic factories operating today in the Soviet Union. And although every one of them has its own "I", the experience accumulated from the time of the demonstration of the first flexible system in the USSR at the Machine Tools-72 Exhibition indicates: High efficiency is common for all. According to the calculations of specialists, the introduction of a flexible complex of mechanical processing of difficult casing parts on machine tools of the Otrabatyvayushchiy tsentr [Processing Center] Type, makes it possible to increase labor productivity by a factor of 2 to 2.5, decrease the machine tool park to one-half, increase the capital-output ratio by 15 to 20 percent, and the economy of the working capital--by 20 to 30 percent. The coefficient of equipment load increases from 0.4-0.5 to 0.85-0.9, the shift system coefficient of work--from 1.6 to 2.5-2.8.

Now the development and introduction of flexible automatic factories are being realized, if one can express it this way, along several lines. They are being given a great deal of attention by the USSR State Committee for Science and Technology, the Academy of Sciences, as well as the Ministry of Instrument Making, Automation Equipment, and Control Systems; the machine tool construction and instrument-making industry; the electrical engineering industry, and others.

Our institute also takes an active part in this enterprise. Specialists of the Experimental Scientific Research Institute of Metal Cutting Machine Tools have created and extended assistance in the development of flexible productions in the Vil'nyus Zhal'giris Plant (for the processing of casing parts), the Dnepropetrovsk Production Association for the Production of Heavy Presses (parts of bodies in revolution) and a number of other leading machine building enterprises of the country.

Recently the CPSU Central Committee and the USSR Council of Ministers have adopted a number of important decisions aimed at the acceleration of scientific-technical progress, and in particular at the automation of production, at its saturation with industrial robots, at the broad utilization of computer and microprocessor technology, and at the introduction of flexible automatic systems. The collectives of scientific research, designer, and technical organizations, as well as enterprises and productions associations of our country have been mobilized in the realization of these solutions.

P. Nad: The development of integrated systems, constructed on the principles of flexible productions, began in Hungary in the first half of the 1970's. Already in 1973, at the International Exhibition in Budapest, the Chepel'skiy Machine Building Plant, jointly with the Institute of Computer Technology and Automation attached to the Hungarian Academy of Sciences, demonstrated an experimental model of a system of machine tools and robots controlled by an ES EVM-1010 Computer, created in our country within the framework of multilateral specialization with the fraternal countries in accordance with the agreement of December 1969.

Subsequently this integrated system was perfected and set up in one of the shops of the Chepel'skiy Plant. It includes 5 boring and milling machines with numerical program control and a rail-route on which the parts are transported with the aid of an automatic manipulator. The system also includes 2 warehouses--a two-row intershop warehouse, in which the blanks are stored, as well as semifinished and finished goods, and another--for instruments and devices. The system is controlled by three small computers.

This was the first step in the creation of flexible automatic productions. The second was taken through the efforts of the specialists of our association in cooperation with designers and engineers of the Videnton Plant, the Intransmash Institute of Computer Technology and International Organization, as well as the Czechoslovak VUNAR [not further identified] Institute with the participation of the IOS-Olomouts [not further identified]. We are talking about the Diogen-500 Production System, which consists of 4 processing centers with a device for the automatic rotation of palettes and rack storeroom. It operates in our association and carries out the orders of the enterprises which belong to it.

At the present time, a more complex flexible production system is being developed in the Budapest Plant for Reduction Gear and Dyeing Devices (KhAFE) [not further identified]. It will consist of three processing centers with numerical program control, store-rooms for instruments and devices, an automatic transportation system, as well as a computer center. The system is intended for the processing of approximately 90 types of casing parts for industrial reduction gear.

Simultaneously with the complex in KhAFE, an experimental integrated production system has been created at Budapest Polytechnical University, in which special attention was given to the perfection of the control of production and technical processes and to the automation of product quality control.

Y. Kirov: The first two flexible experimental sections of machine tools with centralized control from a computer were introduced in Bulgaria in 1976. One of them was intended for the mechanical processing of various articles of the type of bodies of revolution, the other--of casing parts. These sections were equipped with a family of machine tools and processing centers manufactured in our country, manipulators of the Pirin [not further identified] family, warehouse and transportation equipment, as well as computers produced by the IZOT [not further identified] State Economic Association.

Another flexible system, created in 1981, also passed successfully through testing. It is intended for the complete processing of 8 standard sizes of aluminium shields of electric engines, which are manufactured at the Combine imeni G. Kostov in Sofia. The machine tools and robots which go to make up the system carry the trademark of GKHO ZMM [not further identified] and the Beroye [not further identified] Scientific Production Combine for Robot Technology (city of Stara-Zagora).

Of special interest is the "child" of our industry--a flexible complex which works completely automatically. The blank from the warehouse falls directly into the "hands" of the robot. He places it on the machine and already transfers a finished shaft for an automobile to the transport system, which delivers it to another warehouse. The complex also processes other rotation and symmetrical, and prismatic-casing parts for machine building.

The new system consists of 4 modules: Three are the product of the People's Republic of Bulgaria, the fourth is the result of collaboration and cooperation of Bulgarian and Soviet enterprises. Here the Bulgarian RB-241 Robot and the cartridge-center lathe with numerical program control, manufactured at the Moscow Krasnyy Proletariy Plant, work together.

The expected effect from the new flexible production system: A threefold growth in labor productivity, a threefold reduction in production areas, and an increase in the shift system by a factor of 2.5.

As practice has shown, a coordination center is necessary in order to attain the greatest results in the broad introduction of flexible automatic productions and systems and to accelerate their development and application. To this end, a special engineering economic organization--Tekhnoinvest--was formed not long ago in the system of the Ministry of Machine Building of the People's Republic of Bulgaria. Its task is the unification of the efforts of scientific research, planning and design organizations and enterprises which are working on the creation of individual components of flexible productions. Our organization maintains extensive relations also with the foreign trade associations that are engaged in the export and import of the appropriate equipment.

S. Kurzahls: In carrying out the decisions of the 10th SED Congress, we are devoting special attention to the automation of production. In order to attain

the maximum results, we are striving for the steady perfection and increase of the technical level of the latest machines and equipment on the basis of which automation is being realized and for the creation of flexible automatic systems.

One of such systems is successfully operating in the Union Plant in the city of Gera. This is an integrated section for the mechanical processing of casing parts. Its reliability, productivity and efficiency are the result of a large amount of work, which was performed by the GDR Research Center of Machine Building, located in the Machine Building Combine imeni F. Heckert in Karl-Marx-Stadt.

As in other enterprises where analogous productions have been created, in the Union Plant it is built on the module principle. This makes it possible to arrange the necessary "configurations" in conformity with those tasks which the plant carries out.

The flexible production system in the city of Gera encompasses 1,200 types of casing parts. They are identical or similar in terms of configuration and technology. For the manufacture of each one of them, from one to 16 operations are required. The transition from one to the other and the utilization of work stations are carried out through the automatic readjustment of the equipment with the aid of a "Ryad" Single System Computer. A microcomputer controls the transport and warehouse facilities.

At the present time, the basic sphere of operation of the flexible systems are metal-working, machine building, and especially in machine tool construction. In machine building, for example, integrated sections and processing centers have received particular dissemination. The majority of articles manufactured in them are centric and prismatic parts.

In view of the different conditions in which flexible systems operate and the various tasks which they solve, it is difficult to calculate their efficiency precisely. As far as the integrated sections are concerned, the average indicators are the following: A growth of labor productivity by 60 percent; an increase of production output by 30 percent; and an increase in the intensiveness of the utilization of production areas by nearly 90 percent.

V. Yarominek: Flexible systems in Poland have approximately the same history as in the other fraternal countries. Work on them began at the beginning of the 1970's. The first results were obtained in the middle of the 10-year period. And if in the beginning period only some scientific research institutes, primarily machine tool construction institutes, studied this problem, subsequently other specialists also joined up with it, studying the development and production of the latest technology.

In order to obtain an idea of our flexible systems, I will tell about the first one of them, which was introduced in 1975. This is the KOR-1 Production Center created by the Central Design Office for Processing Machine Tools in Pnuszów.

It made it possible to automate various processes in the conditions of quantity output, it secured a broad assortment and quantity of parts being manufactured,

sharply increased the degree of the utilization of machine tools, instruments and other equipment, and provided the possibility of economizing raw material, materials and power, and to manufacture products of a high quality and technical level.

On the KOR-1 cast iron casings of milling and drilling machines of 30 to 40 types were processed on the KOR-1. Thanks to the automation of processes, 15,000 to 20,000 cases of 4 to 8 types were manufactured annually.

The computer system of control, developed by the Institute of Mathematical Machines in Warsaw, made it possible to attain a high level of production flexibility. The great achievement of the KOR-1 is the module principle of the construction and unification of the main units.

M. Polak: At the present time, the idea of flexible automatic productions has been realized in a whole series of CSSR enterprises. Among them are such large enterprises as Skoda in Pilsen, ChKD in Horazd'ovice, Agrostroy in Prostějov, TOS in Gostivarzh, TOS in Kurzhim, KOVOSVIT in Sezimovo Usti, and others.

The integrated production sections established in these enterprises are intended for the processing of the most diverse parts. At KOVOSVIT Concern Enterprise in Sezimovo Usti, for example, the flexible system makes it possible to manufacture up to 6,000 articles requiring about 11,000 program controls. The basic production assortment of the integrated section consists of flange and roller parts. Thanks to the introduction of the flexible system, the labor intensiveness of the processes were lowered by 40 percent and the time for the processing of the articles--by 50 percent.

This system, as also many other flexible systems operating in CSSR enterprises, was developed by the Scientific Research Institute of Technology and Machine Building Economy (VUSTE). Its specialists also took part in the introduction of the equipment and assisted in the adjustment of production.

It must be especially noted that, in spite of the fact that all of these systems were based on a single idea and were created in accordance with a single conception, every one of them takes into account the production structure of the enterprise, or, as they say in our country, "was sewed according to order" for the consumer.

Now the work on the introduction of flexible systems in the CSSR has entered a new stage. And this is well apparent from the example of TOS in Gostivarzh. Here, again on the initiative of VUSTE and with the participation of its specialists, an automatic production is being created, consisting of 13 basic technical, auxiliary and warehouse subdivisions. They encompass, in point of fact, the entire production process, beginning with the delivery of the basic materials from the warehouses, including the processing of parts and the finishing of their surface, and ending with the collection of the finished products--grinding machines with numerical program control.

To solve such a difficult technical task, the creation of four integrated production sections is projected. They are equipped with the most modern machine tools with numerical program control and other most modern equipment intended

for the processing of various dimensions of rotation and casing parts. The control of all processes is carried out by a computer center, where small computers, manufactured by the CSSR in cooperation with other CEMA member countries, operate. All of this makes it possible to increase labor productivity by a factor of 1.8 to 2.0 and to manufacture twice as many products in the same areas. At the present time, the last and fourth integrated sector for large casing parts is being prepared for introduction. Its trial operation is projected for the end of 1985.

The rapid growth of the production of industrial robots and new means of computer and microprocessor technology in the country, which is projected for the following five-year-plan, is called upon to play a large role in the development of flexible production in the CSSR.

#### On the Basis of Cooperation

V. Kalachev and Z. Kozar: The discussion at the conference in Prague confirmed the necessity of the rapid development of flexible automatic productions in the fraternal countries.

As the participants of the conference noted, practice shows that the best results in the solution of the most difficult scientific-technical problems are attained by the CEMA member countries when they cooperate in the development, creation and production of the most modern machines and equipment. For this reason, at the center of attention were questions of cooperation in the sphere of measures which must be implemented in the near future so as to make it possible to develop the new, highly efficient industry at accelerated rates and to attain the solution of cardinal problems within the shortest period of time.

After detailed discussion, the following possible ways of the unification of efforts were outlined:

#### 1. In the Sphere of Science and Technology:

- Analysis and generalization of the experience in the sphere of flexible production systems accumulated in the CEMA member countries and in the developed capitalist states;

- the development:

- of a single conception of flexible production systems, proceeding from the module principle of its construction;

- of methods and modules for the assessment of the socio-economic effectiveness of flexible systems, as well as their planning and their automatic control;

- of the classification and technical demands on the basic elements of the flexible production system;

- of the program control of the flexible production systems;

- of the corresponding CEMA standards;

--the creation and organization of the production of robotics systems for flexible production systems.

## 2. In the Organizational Sphere:

--Development, within the framework of the CEMA Committee for Scientific-Technical Cooperation, of a long-term program of multilateral cooperation in the development and use of flexible production systems in the national economy of the CEMA member countries for the years 1986-1990 and for the period up to the year 2000. The following sections can be included in it:

--general methodological--tasks in regard to a general analysis of the state of affairs in a given sphere, assessment and prognosis of the development of flexible production systems for the near future, the development of questions of unification, as well as measures for the improvement of the organizational-economic mechanism of the realization of the long-term program;

--the creation and introduction of model elements of flexible production systems, including program control;

--the organization of a system for the training and retraining of specialists and management personnel in the sphere of the creation and operation of flexible production systems;

--the formation of an international study group for the solution of concrete problems in the sphere of the control of flexible production systems and the exchange of experience in the given sphere.

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[Article by S. Agafonov: "CEMA: Prospects of Cooperation. In Order Not to Invent the Wheel"]

[Text] However rapidly new sectors of machine building are developing in our day and however swiftly intelligent machines brought forth by technical progress are bursting into production, the metal-cutting machine tool, familiar to everyone from childhood, occupies a leading position even today.

Of course, one can talk about the fact that it is being forced out by more economical and perfect mechanisms, that it is considerably more advantageous, not to cut, but to stamp metal, and that tomorrow's machine building will, most likely, be ashamed of its ancestor--in a word, cite a mass of arguments which take down the MRS [metal-cutting machine tool] (as it has come to be accepted to designate it among specialists) from its pedestal. But for all this, a fact remains a fact--about 80 percent of the machine tool park of the CEMA member countries are metal-cutting machine tools. And, therefore, it is precisely they which provide for the basic needs of the national economic complexes of our countries, they play a key role in the development of the majority of the industries.

The effectiveness of the economic cooperation in the sphere of machine tool construction was the subject of a discussion in the office of the director general of the scientific production association of the Experimental Scientific Research Institute of Metal-Cutting Machine Tools, Vasilii Sergeyevich Belov. (During the past year, the Experimental Scientific Research Institute of Metal-Cutting Machine Tools--ENIMS--observed its 50th anniversary. Seven years ago, it was transformed into an association, which, apart from the institute and plant in Moscow, has branches in Vil'nyus and Odessa). The address was not chosen by accident. You see, the Experimental Scientific Research Institute of Metal-Cutting Machine Tools is the leading organization of the USSR Ministry of the Machine Tool and Tool Building Industry in the sphere of the experimental development of metal-cutting machine tools. Within its walls the present and the future of the industry are being determined, the experience of friends is being analyzed, programs of cooperation are being composed, and joint projects are being realized. What is the active membership of the partners today, their achievements, what are the prospects?

I am holding a small photograph in my hands. This is a picture of a lathe processing center with numerical program control, which was developed jointly with specialists from Czechoslovakia, which is unique in the world.

"If you like, we can have a look at it and, so to speak, "alive", only the dimensions of our nursling, to put it mildly, are great," my interlocutor smiles and explains, "in essence this is a whole mechanical shop. The machine is calculated for the processing of large parts with a diameter up to 800 millimeters, equipped with a whole arsenal of 32 instruments capable of carrying out about a dozen different operations. Thanks to the cooperation with our Czechoslovak colleagues, we traversed the road from the Kuhlman drafting unit of the designer to serial output twice as fast. Each one of the partners assumed concrete obligations, the work was divided into clear-cut stages, there was no dissipation of effort that amounts to a penny. And there it is, the new machine. Indeed, common property.

On another example. In the shops of our experimental plant, tests are now underway on a grinding machine with numerical program control, which was created by a joint designer collective of Soviet and Bulgarian engineers. Two and a half years, instead of the usual five, were required for its creation. Within the next few days it will be presented for judgement by an authoritative committee, and then--the launch into a series. Moreover, only a few weeks are needed for the transition to the flow--you see, the machine was developed with regard to the possibilities and the specific character of the production base, the project was beforehand given a concrete orientation."

The touch is exceedingly remarkable, and the director general of the Experimental Scientific Research Institute of Metal-Cutting Machine Tools talks about this with legitimate pride. The programs of cooperation in which the association is participating, practically with respect to any project, encompass all stages--from developments to mutual deliveries. This is extremely important today since the reduction of the distance between the design office and mass production has become one of the basic key factors in the rise of the productivity of the industry.

In conditions when the demand for the production of the machine building industry is constantly increasing and there remains an acute shortage of manpower, such a luxury as the driving and delay of the introduction of novelties is already inadmissible. The demographic factor is touched on by no means accidentally, this is a serious problem for all. If the technological processes are not perfected, if the industry is not put on the track of automation today, then tomorrow--on the inefficient and labor-intensive equipment, which still constitutes a fairly good share of the machine tool park of our countries--no one will be working.

For this reason, one of the first and foremost tasks on the agenda is modernization, the creation of new types of machines and equipment, taking into account the latest achievements of scientific-technical progress, which will raise labor productivity not by percentages, but tenfold, will release working hands, and, what is the main thing, will turn out high-quality production. This task can only be solved together, concentrating the scientific and production potential in the most important directions.

We are talking, above all, about the use of robots and flexible production systems in the national economy of the CEMA countries, the utilization of the achievements of electronics and electrical engineering, microprocessors, and new technical systems. It suffices to cite only one, but exceedingly eloquent, figure. The installation of a microcomputer in one metal-cutting machine tool in the conditions of the USSR lowers the cost of managing the machine on the average by 10,000 rubles! At the same time, the demand for these same microprocessors still significantly exceeds the supply. Thus, two years ago, the demand of the countries of the [socialist] commonwealth for micro- and mini-computers was covered only to the extent of 50 percent.

This is by no means a reproach of the allied parts suppliers, but sooner a fact which illustrates the presence of extremely rich reserves of economic cooperation. In support of this idea, the following significant example. Even as early as the 1980's, the electrical industry owed the machine building industry the supply of modern electric motor drives for powerful high-torque engines. But today the problem has already been solved. Through cooperation within the framework of the international organization of the socialist countries Interelektro [not further identified], the large-scale production of such drives was developed and mastered in a short time. The machine tool construction industry is now receiving them in the necessary volume.

"Talking about reserves," V. Belov confides, "we must take note of the great possibilities of specialization. Our association is taking an active part in such programs. Thus, in Poland the large-scale production of electromagnetic couplings was set up in accordance with technical documentation of the Experimental Scientific Institute of Metal-Cutting Machine Tools. The results exceeded all expectations. Judge for yourself: Through the concentration of production, the expenditures for the output of this important technical unit were reduced twofold by comparison with the indicator of the developed capitalist countries.

The questions of creating specialized industries are extremely urgent. However attractive at first glance the broad assortment of articles, in our day in the conditions of one country this is sooner a hindrance than an advantage. In the fraternal countries, reconstruction in analogous industries is already proceeding. But this is work not for one year. You see, let us say, in the GDR and in the CSSR approximately 80 percent of the products list of metal-cutting machine tools are produced today.

At the present time, more than 40 percent of the metal-cutting machine tools being produced have been encompassed by long-term programs of cooperation of the socialist countries. Is this a lot or a little? On the one hand, if one takes into consideration that some three decades ago a number of partners (Bulgaria, Romania) began in machine tool construction practically at zero, and integration was not even being talked about, then this figure looks very solid. But the demands of our day reduce it to the level of an intermediate stage, and every percent which remains beyond the framework of cooperation in actual fact signifies expensive duplication and parallelism.

It goes without saying that all of this cannot be solved in an hour. What is necessary is a comprehensive analysis and calculation of the possibilities and requirements of the partners. But some levers can be utilized effectively already now. To take only the questions of the cooperation of the scientific research centers of the fraternal countries. Organizations of the type of the Experimental Scientific Research Institute of Metal-Cutting Machine Tools have been created practically everywhere, but, in the opinion of my interlocutor, they are obviously inadequately joined to one another.

"In our association," he says, "there are almost 50 laboratories and departments, each one of which is conducting scientific search in a certain direction. But what work our colleagues are engaged in, we do not always know, and we are not fully informed about their successes. And that means, we at times invent the wheel, whereas the concrete problem has long ago been solved by our friends. Lack of coordination is a pity, the more so because everything is within our power. It could be eliminated by the creation of a council of directors of related associations, which, meeting once a year, let us say, prior to the confirmation of the current plans of work, would coordinate the basic directions and distribute obligations, in short, keep the finger on the pulse. The same can also be said about the establishment of direct relations between the organizations of the fraternal countries. Provided with the corresponding rights of the partners, they would significantly increase the efficiency in the adoption of decisions and the coefficient of useful action of cooperation.

The Economic Conference of the member states at the highest level in Moscow, which took place in June of this year, set important tasks for our industry. Now the business at hand is to realize them. The new stage of cooperation, into which the fraternal countries are entering, requires active and creative work. The success of our undertakings depends only on us.

8970

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WESTERN EUROPE

UK-USSR CHAMBER OF COMMERCE MEETING, RESULTS DETAILED

Opening of Meeting Noted

LD281432 Moscow TASS in English 2043 GMT 27 Mar 85

[Excerpt] Moscow, 27 Mar (TASS)—The 69th annual meeting of the British-Soviet Chamber of Commerce was held here today. It was attended by Nikolay Patolichev, Minister of Foreign Trade of the USSR; John Mayhew-Sanders, president of the British-Soviet Chamber of Commerce; Yevgeniy Pitovranov, chairman of the Presidium of the Chamber of Commerce and Industry of the USSR; Iain Sutherland, ambassador of Great Britain to the Soviet Union; Viktor Popov, ambassador of the USSR to Great Britain, a majority of directors general of Soviet foreign trade agencies, and about 190 members of trade, industrial and financial circles of Great Britain.

Addressing the meeting, Nikolay Patolichev said that the Soviet Union firmly and consistently followed the course of developing scientific, technical, trade and economic cooperation on a mutually beneficial and equal basis with all countries, Great Britain among them. In 1984 trade between the Soviet Union and Great Britain grew by almost 20 percent and reached 2.2 billion roubles.

Taking note of big untapped possibilities for developing mutual trade, the minister of foreign trade of the USSR said that both countries faced the task of increasing the value of Soviet-British trade by 40-50 percent over a short time. He urged the business quarters of the Soviet Union and Great Britain to make every effort to achieve that aim.

Speaking at the meetings, representatives of the British side expressed readiness to promote cooperation with the Soviet Union in trade, economy, science and technology. The speakers stressed that British firms were taking an active part in exhibitions held in the USSR and spoke of the upcoming events which would promote stronger bilateral business ties.

UK Businessman: Trade Prospects

PM011307 Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 30 Mar 85 p 3

[Interview with J. Mayhew-Sanders, president of the British-Soviet Chamber of Trade, by correspondent Ya. Lomko: "Good Prospects"]

[Excerpts] The annual meeting of the British-Soviet Chamber of Trade was held in Moscow 27 March. Our correspondent asked Mr J. Mayhew-Sanders, president of the chamber, to voice his opinion on the results of that meeting.

[Lomko] What, from your viewpoint, is the chief result of the annual meeting of the British-Soviet Chamber of Trade?

[Mayhew-Sanders] Our meeting here in Moscow was productive. It is quite hard to single out any one result as the chief result. I would like to say that this meeting was one more step along the path of developing and deepening trade relations between our countries. It was particularly interesting because a sizable number of businessmen from Britain had an opportunity to meet with representatives of Soviet trade organizations and ministries, and this enabled them to establish contacts with them and familiarize themselves better with conditions in your country. This meeting demonstrated how interested British businessmen are in the Soviet market. The impressiveness of the demonstration is underlined by the fact that more than 200 British businessmen participated in the meeting. On the Soviet side the seriousness of the attitude to questions of Soviet-British trade was emphasized by the participation in the meeting of USSR Foreign Trade Minister N. S. Patolichev; Ye. P. Pitovranov, chairman of the Presidium of the USSR Chamber of Commerce and Industry; and the heads of many Soviet foreign trade associations.

[Lomko] In what spheres do you see a possibility for intensifying business ties between Britain and the USSR?

[Mayhew-Sanders] The Soviet Union is drawing up the 12th 5-Year Plan. This week we have had a very useful exchange of opinions with Soviet representatives on the new plan and familiarized ourselves with the main tasks in the sphere of the economy and industrial development in the new 5-year plan and even through the year 2000 with regard to certain items. To this it should be added that certain British firms have already received requests connected with the chief, priority projects, which will go down as constituent parts of your plan. All this information will help British businessmen to get a broader picture of the directions in which British-Soviet trade will grow.

It seems to me that we can expect appreciable growth in our exports to the USSR in the spheres of equipment for the chemical, agrochemical, and petroleum and gas industries and the production of plastics and polymers.

Another important direction is determined by the plans to restructure and improve the efficiency of existing sectors of Soviet industry. I believe that Britain has an opportunity to offer great experience in the sphere of technology, design, control systems, and methods of enhancing industrial production efficiency. We expect growth here, too.

British industrialists are interested in increasing exports to the USSR. This is our chief interest. But we must also devote attention to Soviet exports to Britain.

[Lomko] The U.S. Administration has long been making efforts on the pretext of concern for military security to hinder the development of trade between Western countries and the socialist countries. What are the positions of your country's business circles with regard to this question?

[Mayhew-Sanders] We know that our two countries belong to different social systems. Of course, problems of security are an object of concern to the government. But I as a businessman believe that security questions must not be used for the purpose of preventing exchanges in the sphere of technology or exchanges of commodities among all countries. These exchanges must rest on fundamental international bases.

[Lomko] The international situation today is distinguished by tension. All peace-loving peoples are interested in normalizing it. What, in your opinion, is the influence of economic ties among countries on the climate of international relations as a whole?

[Mayhew-Sanders] I believe that business people in Britain share the view that good trade relations help to establish closer relationships among peoples. Our reciprocal trade will help to improve life for the peoples of the two countries. And this is not idealism but reality. Trade frequently continues even when political relations are not particularly good. As regards relations between Britain and the USSR, it is my view--and I said so yesterday--that there are signs of an improvement in them.

#### Chemical Contracts Talks Held

LD291231 Moscow TASS International Service in Russian 1115 GMT 29 Mar 85

[Excerpt] Moscow, 29 Mar (TASS)--Talks on the conclusion of contracts for the construction of large chemical enterprises in Kursk (center of the RSFSR), Budennovsk (Northern Caucasus), and Blagoveshchensk (Far East), to a value of some R1 billion each, are being held between the Soviet Union and Great Britain. This was reported by the leading officials of the British-Soviet Chamber of Trade at a press conference which took place here today. It was devoted to the results of the stay in the USSR of approximately 190 British Businessmen who took part in the 69th annual meeting of the British-Soviet Chamber of Trade and held business talks at Soviet foreign trade associations.

These contracts, said John Mayhew-Sanders, president of the British-Soviet Chamber of Trade, which are to be signed before the end of the current year, will lay good foundations for British-Soviet trade and economic cooperation in the period 1986-1990.

Among other promising areas of bilateral business cooperation he mentioned power engineering, the petrochemical and gas industry, and the agroindustrial complex.

Having expressed satisfaction at the volume of Soviet-British trade achieved in 1984, other participants in the press conference stressed that British firms intend to contribute to a further increase in the trade turnover between the two countries.

GENERAL

#### USSR INTERNATIONAL SHIPPING POLICY PRAISED

LD231053 Moscow TASS in English 1402 GMT 22 Apr 85

[Text] Moscow, 22 April, TASS--TASS commentator Aleksandr Kuvayev writes:

At the recent session of the Soviet-Libyan mixed commission on shipping in Moscow the two sides considered prospects of broadening mutual carriage of cargos, improving maintenance of ships and crews, reduction of time of moorage, unloading and loading in ports and other questions.

Cooperation in sea shipping is one of the trends of the course of all-round development of reliable and mutually beneficial economic links, which is invariably conducted by the states of the socialist community and newly free states of Asia, Africa and Latin America.

The socialist countries support the progressive demands of newly free states on restructuring international economic relations on an equitable and democratic basis and establishing a fair international economic order. Assistance of countries of the socialist community, which has no political strings attached, gives developing countries the possibility to build an independent economy, assists their equal participation in international economic links and the international division of labour.

Therefore the socialist countries treat with understanding the striving of developing states to broaden their participation in sea carriage of their own foreign trade cargoes. This is promoted by the steadily strengthening links between the two groups of countries in shipping. The People's Republic of Bulgaria, the Socialist Republic of Vietnam, the Republic of Cuba, the Polish People's Republic, the Soviet Union and the Czechoslovak Socialist Republic have concluded by now more than 50 bilateral agreements with young states. These agreements provide for technical assistance in designing, building and exploitation of ports and other sea transport structures in developing countries, formation of mixed shipping lines, joint fulfillment of scientific research and other work.

A big volume of work has been done in the recent years in the development of sea transport coastal facilities of Guinea, the Yemen Arab Republic, Syria and other countries.

The training of national cadres is an important trend in cooperation. Students from many young states study at maritime educational establishments of socialist countries. Within the framework of the UN Commission for Africa and the Economic and Social Commission for Asia and the Pacific, the CMEA member countries hold seminars and exchange of experience. In 1984 alone two seminars were held in Leningrad and Odessa (USSR) on problems of organizing the planning of the operation of sea ports and technology of transshipment of sea cargoes. Those seminars were attended by more than 60 representatives from 35 Asian, African and Pacific Ocean basin countries.

Interstate bilateral agreements on shipping create the most stable political and economic conditions for activities of merchant marine of developing countries, promote development of friendly and mutually advantageous relations between them and the states of the socialist community.

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GENERAL

INTERNATIONAL INVESTMENT BANK COUNCIL MEETS

LD172027 Moscow TASS in English 2005 GMT 17 Apr 85

[Excerpt] Moscow, 17 April, TASS--The 38th meeting of the Council of the International Investment Bank was held in Moscow on 16-17 April. Delegations of representatives of the bank member countries: the People's Republic of Bulgaria, the Hungarian People's Republic, the Socialist Republic of Vietnam, the German Democratic Republic, Cuba, the Mongolian People's Republic, the Polish People's Republic, the Socialist Republic of Romania, the USSR and the Czechoslovak Socialist Republic took part in the work of the council's meeting.

The meeting was attended by representatives of the Secretariat of the Council for Mutual Economic Assistance and the International Bank for Economic Cooperation.

The meeting was also attended by representatives of the government of the Socialist Federation Republic of Yugoslavia, who participate in the council's meeting in accordance with the agreement between the International Investment Bank and the Yugoslav Government, and as observers--representatives of Afghanistan's Bank, the Bank of Yemen, the National Bank of Laos, the Bank of Development of Agriculture and Industry of Ethiopia, the Bank of Finland, the Inter-American Development Bank, the African Development Bank, the Northern Investment Bank.

The council's meeting was chaired by head of the USSR's delegation, president of the board of the USSR State Bank Vladimir Alkhimov.

The Council of the International Investment Bank considered and endorsed the report on activities of the International Investment Bank for 1984 and the bank's balance by 1 January 1985, accepted for crediting new projects and took decisions on distribution of profits for 1984, and also of other questions of the bank's activities.

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GENERAL

BOOK ON ROLE OF CEMA, THIRD WORLD IN SOLVING FOOD PROBLEM

The No 1 (Jan-Feb 85) issue of ASIA AND AFRICA TODAY, published in Moscow, carries a review by Yu. Alexandrov of the book "Cooperation Between CEMA Members and Developing Countries in Solving the Food Problem". The book is edited by L. Zevin. The text of the review is published in the 28 February 1985 JPRS USSR REPORT: POLITICAL AND SOCIOLOGICAL AFFAIRS, JPRS-UPS-85-016, on pages 31-32.

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